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SOME PHASES OF TUBERCULOSIS CONTROL*

By J. LESTER PATTERSON, M. D.
Holden, West Virginia

A few years ago we had an epidemic of poliomyelitis in West Virginia. During this epidemic there were 662 cases of polio reported, with 60 fatalities. In Logan County there were 69 cases of polio reported, with 8 deaths. Because of this epidemic the whole state was in a turmoil. In many counties the schools were closed, the churches were closed to young people, the theatres refused admittance to the youngsters, all swimming pools and recreation halls were closed, and everyone was living in a state of fear and trembling lest this malady strike in his own family. During this same year there were 1,686 cases of tuberculosis reported in this state, with 865 deaths from this disease. In Logan there were 69 cases of tuberculosis reported, with 27 deaths. Yet nobody in the state or county was alarmed about tuberculosis. One might say that the fear was caused by the fact that polio struck the youngsters and the young people; also, that it is crippling. But has it been considered that almost half (47.5 per cent) of the tuberculosis deaths over a 3-year average occur in individuals under 25 years of age? Almost one-fourth of the deaths occur in persons in the age period of 20 to 24 years. Does this not show that tuberculosis is equally as ravaging in our younger population as polio? In 1941, tuberculosis was the leading cause of deaths among women between the ages of 15 and 34 and second only to accidents among men in the same age group. Thus tuberculosis becomes a major economic problem because it takes its toll to an appreciable degree in the age groups in which men and women make their greatest contribution to our social and economic structure. When we consider that 55 per cent of the cases of tuberculosis terminating fatally have not been reported to our health authorities prior to death, we see that our problem from a statistical standpoint is considerably more complex. In looking over the statistics by counties, we find that 33 of the 55 counties of this state have a higher percentage of cases not reported prior to death than the 55 per cent average of the state as a whole. These range from 3 counties which have no cases reported prior to death, to one county which has reported all of its cases prior to death. These statistics are very interesting and I think should serve our county associations well as an index to the manner in which our work is being done in tuberculosis case-finding. Even our state average of 55 per cent is far too high and if concerted effort were put forth, it would be greatly lowered.

The fundamental methods of case-finding have been stressed from time to time and need no review here. The three general methods of case-finding are: (1) through the private physician, (2) in the tuberculosis clinics and (3) through mass surveys of the population. My interest in case-finding and tuberculosis is through industry. Of course, the contacts to every known case of tuberculosis should be investigated and reinvestigated until it is known that no new cases will develop. But through industry, I think we have the approach to a new field in tuberculosis control. For the past few years many of the larger industrial plants have been examining their em-

*Presented before the West Virginia Tuberculosis and Health Association at Clarksburg, September 20, 1946.

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ployees by means of the x-ray before putting them to work, some of the plants following this procedure periodically thereafter. In the small industry, this has not been the practice. When we consider that the highest tuberculosis incidence is in unskilled laborers, and the next highest in semi-skilled laborers, and that the range is downward as the man's skill increases, we see that through industry we should be able to find a large percentage of leads to case-finding. From a survey of over 500,000 people and an analysis of over 350,000 of these people, conducted by the United States Public Health Service and reported as of January 31, 1944, it was noted that 1.3 per cent had reinfection type tuberculosis. Of these cases 61 per cent were in the minimal stage, 32 per cent were in the moderately advanced stage, and in 7 per cent the disease was far advanced. From these figures we see that the tuberculosis found by this type of survey gives us the largest percentage of cases that probably will respond to treatment.

Due to our compensation law as passed by the last legislature, the attention of industry has been focused on the chest. Of course, the industrial physician is not necessarily looking for tuberculosis but while examining the chest for any abnormal condition, tuberculosis, if present, will necessarily be noted. It is my understanding that our state's largest industry, that is, the production of bituminous coal, soon will enter into a mass roentgenographic examination of employees in some localities. How soon this will become effective is yet to be seen. It will be very interesting to compare the number of cases of tuberculosis and other chest conditions found in the miners with the number found in persons engaged in other industries.

Another problem that warrants considerable attention in any control project is that of the employee who has had tuberculosis and whose case has been pronounced arrested thus enabling him to return to work. The industrial physician realizes that this man must work under great handicaps. There are certain types of work that he can do and many other types of work that, because of his lung condition, he cannot do. Also, it is my opinion that after he returns to work he should be checked often and with care. In our own industry, it has been my practice for the past several years to check the post-tuberculous employee's chest at least once a month for a period of twelve months following his return to active work. Also, I try to place such an employee in a well ventilated atmosphere as free from dust as possible, and recommend that he be not exposed to noxious gases or lung irritants. Consequently, I advise him not to work underground. A few months' cooling-off period between the time of sanatorium discharge and the beginning of work to allow this man to acclimate himself to his home conditions also is recommended. I would like to cite two cases to stress my point: In March, 1941, a truck driver, age 46, was referred to me with a diagnosis of rheumatism and a possible heart lesion. I was asked to check this man by means of the x-ray to determine whether or not his heart would stand nonspecific protein therapy for his rheumatic condition. An x-ray picture of his chest disclosed far advanced tuberculosis, and the report on the examination of his sputum was positive. This man was put to bed at home until a sanatorium bed could be procured and on July 15, 1941, he was admitted to Pinecrest, with a guarded prognosis. He made what appeared to be a remarkable recovery and was discharged from Pinecrest January 15, 1943. He was advised to take good care of himself and to report periodically for a check-up during his cooling-off period. He apparently got along very well until August, 1943, when he returned to me with the statement that he had a severe cold. A check x-ray of his chest showed that he had rapidly regressed and again had far advanced bilateral active tuberculosis. In response to a telephone call to Pinecrest, he was readmitted immediately and again made a satisfactory recovery. He was discharged from Pinecrest February 2, 1945, with a diagnosis of arrested tuberculosis. If we had not allowed the six and one-half months' cooling-off period in this case, we would again have had a tuberculosis individual at work. He was allowed to cool off on his second discharge from Pinecrest and returned to light work on the outside as a tool checker. Since his return to work, I have examined his chest by x-ray on the first or second day of each month for twelve consecutive months. He has shown no break-down in his tuerculous process and at present is coming in every three months for his check-up.

Incidentally, the family check-up in this instance was very interesting inasmuch as the man's wife and seven children were examined by x-ray immediately after tuberculosis was discovered in his case. The wife's x-ray was negative; all the children showed evidence of healed primary lesions, and all had positive tuberculin reactions with the tuberculin patch test. The children have been followed periodically since being examined, by the Mobile Unit of the State Health Department until last month when I called them in for a check-up by myself so that I

could report this case. One of the boys is now in the United States Army and one can assume that his chest is clear or he would not have been inducted. The other children show their primary scars but none shows any evidence of reinfection type tuberculosis.

The second case is that of a food handler which was picked up on a routine food handlers' examination. This man was a butcher and after the diagnosis of tuberculosis was made he was admitted to Pinecrest. After a stormy period the disease was arrested and he was released. He did not feel on his discharge that he should return to the butcher shop for fear that people would be afraid to deal with him, knowing that he had had tuberculosis, although it was inactive at that time. He obtained work in a filling station where he met people out of doors and at least satisfied his mind that they were not afraid of him. He later became manager of a recreation hall. Throughout his postsanatorium period he has been closely followed and no return of his tuberculosis has taken place although he has been out of the sanatorium for five years.

It has been my practice to examine by x-ray, or at least by fluoroscope, our food handlers' chests at the time they report for their periodic blood test, as formerly required by the state health department. Also, all food handlers are thus examined before beginning work.

It is my opinion that any person who is to meet the public should have an x-ray of his chest made before beginning work, and periodically thereafter. This is especially true of school teachers who are in close contact in enclosed quarters with children, of maids and servants in our homes, and of all store clerks and food handlers in our stores. I believe that as our efforts to control tuberculosis in industry are expanded, we will have greatly reduced the 55 per cent of cases of tuberculosis terminating fatally, which, according to statistics, are not reported to our health authorities prior to death.

BENEFITS OF EARLY DIAGNOSIS

There are great benefits to the public in the early diagnosis and cure of tuberculosis. The spread of the disease from persons with positive sputum to their families and friends and the community is avoided, and a health hazard of first importance is controlled. The shorter hospitalization period required for minimal cases means that care is effected at a lower cost. Furthermore these patients often adjust themselves economically, and public expenditures for them and their families are thereby definitely lowered.

Opportunities for diagnosis are particularly significant at this time, since war, as always, has increased the incidence of tuberculosis. I. D. Bobrowitz, M. D. and Ralph E. Dwork, M. D., N. E. Jour. Med., Jan. 11, 1946.

TUBERCULOSIS CASE-FINDING PROGRAM*

By ROBERT L. SMITH, M. D.
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Charleston, West Virginia

The first step in a tuberculosis control program is the finding of cases of the disease in the community. However, it must always be kept in mind that the mere finding of cases does not constitute a tuberculosis control program. Along with case-finding should go plans for completing the diagnosis of the cases found, and for the care of those persons needing medical supervision, with emphasis on sanatorium care.

The purpose of this paper, therefore, is to deal specifically with the case-finding program for tuberculosis as applied to a typical West Virginia community. At present, West Virginia does not have a sufficient number of beds for all its tuberculous cases. The minimum standard is two and one-half beds per annual death. West Virginia falls slightly below two beds per annual death. In the near future, the state may look forward to having a long waiting list for admission to its sanatoria and should be taking immediate steps to make more beds available. With increased emphasis on the case-finding program, the expected shortage will become even more acute.

Further, it is important that the practicing physicians be acquainted with the program, be able to complete the diagnosis and make necessary recommendations. A local diagnostic clinic should be available, directed by a competent chest physician, for care of the medically indigent. The general practitioner should be encouraged to bring his private patients to these clinics for consultation.

The success of the program is dependent upon the presence of an adequately staffed health department in the community because a tuberculosis control program must be coordinated through such an agency, and an efficient system of follow-up should be in operation. A case which is found and then lost for lack of proper follow-up is just as dangerous to the community as one which has never been found.

In most areas, West Virginia falls far short of this goal. Steps should be taken now by the tuberculosis associations and other interested groups to promote adequate health departments and more sanatoria beds. Rehabilitation of the tuberculous and adequate financial assistance to

*Presented before the West Virginia Tuberculosis and Health Association at Clarksburg, September 21, 1946.

the families of bread-winners stricken by tuberculosis should be considered and steps taken to supply these needs.

The lack of the best facilities, however, should not prevent improvement of the programs already in operation. In areas where facilities are inadequate, programs must necessarily be limited to procedures that will give the greatest return for money and efforts expended. Everyone knows that new cases of tuberculosis always are acquired from old cases and that constant association with an open case of tuberculosis is the manner in which the disease is spread. By an open case is meant an active case of tuberculosis having a positive sputum. Therefore, the most logical place to look for tuberculosis is among the persons in close contact with known cases. This job is, primarily, that of the physician caring for the case. He should see to it that all such persons are examined. By use of properly applied tuberculin tests, the x-raying of many chests may be dispensed with because a negative reactor can be assumed not to have the disease, except in cases of individuals who may become desensitized to the tubercle protein.

It is the duty of the public health nurse to visit persons in contact with any known case of tuberculosis and to make sure that those who have not received an examination are examined. Routine follow-up examinations of these cases should be done in accordance with accepted clinical practice and procedure. Routine x-raying of chests of all persons admitted to hospitals is a very important phase of the program. Physicians in practice realize that tuberculosis in its early stages usually does not give rise to symptoms and that even far advanced cases may present few or no abnormal physical signs. It is wise for physicians to suspect tuberculosis in all persons coming to them for examination. Enough research has been done to show that a properly applied Mantoux test can be trusted to indicate the presence or absence of tuberculosis in an individual, with the exception of patients who have far advanced tuberculosis and who have become desensitized to the tubercle protein. In such case, the history and the results of the physical examination should arouse enough suspicion for the physician to order an x-ray taken. I do not mean by this that tuberculin testing should be relied on implicitly, but it is an inexpensive means of ruling out tuberculosis when facilities for obtaining x-rays are not available or are difficult to obtain. The test should be given routinely to all patients attending diagnostic chest clinics, and is as important in routine clinical procedure as the chest x-ray and sputum studies.

When all these sources of case-finding are exploited to their fullest, there will remain many active cases of tuberculosis among the general population which will be undiscovered until they are in an advanced stage or even until death. This fact is due to the insidious nature of the disease and the fact that many people are not seen by physicians or health officials. The only way these cases can be found is through mass surveys. With the development of the small film technic a cheap, rapid, and efficient method of case-finding has been introduced. Since the introduction of mass radiography, as this method has been called, the x-ray examination of the chest has assumed the role it deserves as the strongest weapon in the fight against tuberculosis. Case-finding now can be used in large population groups without specific reference to foci of infection (i.e., persons exposed to known cases). This program has been so satisfactory that many physicians have advocated that the entire population be examined radiographically at regular intervals. Such a scheme, however, is difficult to carry out and does not appear essential for the control of tuberculosis. As in the control of other communicable diseases, it is necessary only to reach a significant proportion of the population within a limited period of time, provided that the groups in the community chosen for survey are those having the highest incidence of clinically important tuberculosis.

As was pointed out in another paper, persons employed in industry comprise an ideal group because they are easily assembled and show a significant group incidence of tuberculosis.

Small film radiography is well adapted to case-finding in larger general hospitals. There were more than 15,000,000 hospital admissions in the United States in 1945. Tuberculosis is found among this group in larger proportion than in the general population, from 1 per cent to 3 per cent having clinically significant tuberculosis. An even higher incidence of other chest pathology is found by this procedure. Smaller hospitals having less than fifteen admissions a day to the hospital and to the outpatient service should depend on large 14 by 17 celluloid x-ray films. Different types of photofluorographic equipment may be installed at varying costs in hospitals with more than fifteen admissions daily, depending on the number of admissions and type of equipment needed.

Dr. J. L. Knapp, of the Weston State Hospital, already has indicated* the importance of x-raying all patients in the state mental hospitals. There are 4,326 beds available currently in the mental hospitals of West Virginia. From 4 per cent to 10 per cent of these patients probably will be found to have reinfection tuberculosis, active or inactive.

Special groups, such as food handlers and teachers, may be brought in for x-ray when necessary arrangements have been made.

Community surveys now are being conducted by health departments cooperating with tuberculosis associations throughout the nation with very gratifying results. In some areas as high as 90 per cent of the population between 15 and 65 years of age have been x-rayed in this manner. This is the most difficult type of survey to perform because a great deal of time and effort on the part of the local community must precede such a survey to assure a good response.

It is important to emphasize again that the x-ray is only the first step in establishing a diagnosis of tuberculosis. Although it is one of our strongest tools in establishing a diagnosis, it must be supplemented by a thorough history and physical examination by a competent physician, and further laboratory work. The greatest part of the responsibility for this must necessarily be borne by the practicing physician.

The bulk of the population submitting to an x-ray would never think of having chest x-rays made if mass x-ray facilities were not available. Most persons found to have tuberculosis would not have presented themselves to their private physician for examination until the disease had become much more extensive. Therefore, as a result of mass x-ray surveys, more tuberculosis cases will come under the observation of their physicians while the disease still offers a favorable prognosis, and both the patient and physician will be benefited immeasurably.

West Virginia now has one 4 by 5 photofluorographic unit in a tractor-trailer which visits nearly every county in the state to conduct surveys, but attempt has been made to x-ray contacts, suspects for tuberculosis, and old cases only. If time permits, special groups are x-rayed. During the fiscal year 1945-46, this unit x-rayed 13,297 persons, finding 247 new cases, or 1.9 per cent, half of which were active or questionably active. Four hundred and thirty-two cases previously known to the health department were x-rayed and 27 per cent of these were found to be active or questionably active. We have been conducting industrial surveys and surveys of special groups with a 35 mm. photofluorographic unit since February 1945. By July 1, 1946, this unit had x-rayed 22,475 persons and found 275 cases of reinfection tuberculosis (1.2 per cent). One hundred and thirty-one of these were active or questionably active (0.6 per cent).

The 4 by 5 unit will be converted into a 70 mm. unit in the near future. When this is done, it is planned to encourage an increased number of special groups to be surveyed in each county, as the improved unit will be able to x-ray 500 persons a day compared with 125 at present. The 35 mm. unit has just recently been traded for a more efficient 70 mm. photofluorographic unit which is to be installed in a truck purchased from the War Assets Administration. Delivery of a complete, new 70 mm. unit mounted on a tractor-trailer with an electric generator is expected in the near future. With this unit, any part of the state can be served without depending on local electrical power. Additional equipment is a portable field unit with which to take the conventional 14 by 17 celluloid films (but not miniature films). The plan is to follow our other units with this unit to retake x-rays indicated in areas where 14 by 17 x-ray facilities are not readily available.

On request, these units are available for special group or community surveys throughout the state. We plan to schedule the units at least 6 months ahead. Already we have requests which have tied up the units for three or four months. Institutions, industries, and interested groups may request the services of the units through their local health departments. They will be given consideration, as far as possible, in the order received, provided there is assurance of a reasonably good turnout to justify use of the unit. The schedules will be made up to assure the most efficient use of the units. This service is provided free of charge to the community by the Bureau of Tuberculosis Control.

As soon as possible, it is planned to attempt our first all-out community survey program in West Virginia. Initially, the plan is to survey a rural county, and also a county which is largely urban. It is very important that the first attempt be a success, as the goal is to x-ray the chests of the entire adult population of the state in five years' time. This has been recommended by the Committee on Tuberculosis of the West Virginia State Medical Association.

*Ed: Paper presented before the Annual Meeting of the West Virginia Tuberculosis and Health Association at Clarksburg, September 20, 1946.

Because of the magnitude of the undertaking, if the program is to be successful all agencies and organizations must lend their active support. In each county the groups directly interested in such a survey are the medical profession, the local health department and the local tuberculosis association. From these three groups must come the leadership for the undertaking. The medical society should be approached early in the planning of the program by the local health officer. The success of the survey will depend on the active support of the physicians. The medical profession, therefore, must not merely endorse, but must actively support, the program.

It is generally agreed throughout the United States that the service should be made available to everyone who has reached his fifteenth birthday. As reinfection tuberculosis is rarely encountered in persons under this age, time and money are saved by excluding them, and x-raying them only if they have contact with known cases.

Reports of all negative findings are mailed in sealed envelopes directly to the persons concerned. When an x-ray shows abnormal pulmonary findings, a report is mailed to the family physician and the patient requested by mail or by a visiting nurse to see his physician. These reports are made in the strictest confidence and in no case is anyone but the personal physician notified of the patient's findings.

It is the duty of the health department to follow up these cases to see that they are under medical care and, if found to have open active tuberculosis, the members of the household should be instructed in ways to prevent the spread of the disease to others. The health department is responsible for ascertaining that all close contacts are examined and protected.

Arrangements for the time and place of the survey in each community should be made well in advance by the local health department personnel in cooperation with a representative of the Bureau of Tuberculosis Control. The unit requires 220 volts with 60 amperes of current with the meter switch box within 100 feet of the site of operation. It is important that the transformer be within 500 feet of the meter box. The hours of the survey are arranged to suit the local situation, but it should be borne in mind that there is much more work in connection with the actual operation of the machine than that of making the exposures. The technicians must transport the equipment to the site of operation, set it up and spend additional time developing films and completing records, all of which shortens the actual time the machine can be kept in operation. Persons can be x-rayed at the rate of 120 an hour but it is best not to schedule more than 500 a day. A local electrician should be on call to aid the technician during clinic hours and to take care of emergencies, so that interruptions in the x-ray schedule can be prevented.

It is important that the costs of carrying out the campaign, such as those incurred by advertising, educational pamphlets, posters, postage, and incidentals, be borne by the local tuberculosis association. The cost of the actual operation of x-ray installations, films, and technical and professional help is borne by the health department.

It has been the general experience that it is unnecessary to require the individual to strip to the waist for the x-ray, thus eliminating the need for dressing rooms, unless retakes with 14 by 17 inch celluloid films are to be made. Although the subjects need not remove shirts or blouses for x-ray of the chest, he should remove all dense objects, such as pens, pencils, cigarette packs, or decorative pins.

Preparing for a community survey requires a great deal of effort on the part of the community and technics employed must necessarily vary from one community to another, depending on the local conditions.

The following is a suggested procedure:

The responsibility for organizations of the community and dissemination of educational materials, schedules, speeches, newspaper, and other publicity may be delegated to the executive secretary of the tuberculosis association. A mass meeting should be called in each community and in each town or city for the purpose of explaining the program and securing working committees. Representatives of all civic and fraternal organizations, medical societies, religious organizations, health and welfare agencies, county and city commissions, Chamber of Commerce, Red Cross, county school board, county agent and home demonstration agent, women's clubs and other groups should be invited to this mass meeting. A committee from this group should be appointed to serve as a central steering committee with the agreement that each appointee will serve in whatever capacity the chairman of the steering committee asks. At the first meeting of the steering committee the chairman of the smaller committees should be appointed. Suggested committes are: (1) publicity, (2) house-to-house canvass, (3) business house and industry, (4)

institutional, (5) civic groups, (6) volunteer assistants, and (7) transportation.

The quality of the publicity rather than the quantity should be stressed. If possible, the selected chairman should be a professional person with the "know how" to reach the newspapers, radio, and the effective public speaker in the community, stimulating in the groups a wholehearted desire to inform the people of the purposes, objectives, and progress of a county-wide x-ray campaign. The newspapers and radio stations, considering health as a subject of primary interest and importance to the community, will cooperate with the program from its inception to its end.

Newspapers that have a county-wide circulation should be used as mediums of publicity. Articles of 200 to 500 words should be run three or four times a week during the entire program. From information furnished to the editor, he should be encouraged to write editorials as often as indicated. Cuts of prominent local persons should be used in connection with the program.

Most of the newspaper articles should be limited to 300 words or less, in which a definite attempt should be made to bring out some new phase of the program. House-to-house canvass, procedure for having pictures taken, clinic dates and time, statements by health leaders, and progress of the program are some of the subjects that should be stressed. No "canned copy" should be used, but the local tie-in should always be stressed.

The local radio station can be of great value if the program is directed by a professional. Such programs should be remote control broadcasts from clinics with the announcer interviewing the prominent people as well as the average person in attendance. Another interesting feature is a play by play account of a person having an x-ray made, from registration to dismissal from the camera.

Round table discussion comprised of a member of the medical profession, the executive secretary of the tuberculosis association, x-ray technicians, and a health officer is another interesting feature. Formal speeches over the air, unless given by professional speakers, are of questionable value. The movie short is of value if it is based upon regional or local activities carrying the schedule and hour of x-ray clinics.

Cards should be sent to everyone on the Christmas Seal Sale list, telling them of the program, urging their cooperation, and giving them the time and place of x-raying in their respective communities. Posters calling attention to the campaign should be placed in all business houses. The Boy Scouts are always glad to help in the placing of these posters.

The chairman of the house-to-house canvass should divide the city or county into sections. He should ask one person to serve as chairman of each section. Each sectional chairman should be responsible for securing other workers in his district. This should be so well planned that there will be a personal home call by one of this group of workers to every house in the community. During this call, a definite appointment slip for each person in the household should be given, the worker retaining the copy to be returned to the office of the executive secretary of the tuberculosis association.

Personnel in business firms, industrial workers, institutional personnel and inmates, people in prison camps, and other groups should be reached and arrangements made for institutional or group attendance.

The chairman of the volunteer workers should have available 5 or 6 workers to serve at each clinic as receptionists and clerical workers. This help may be secured from the senior Girl Scouts, the Junior Woman's Club, or any other junior group or organization. This group of workers may prepare literature and posters for distribution. Women's Clubs may be asked to serve as receptionists and clerical workers at each session. Three people are needed to register, another to stamp x-ray numbers on cards, and another to help keep persons in line.

Plans should be worked out whereby transportation will be available to each individual. In some areas school busses may be available to those who do not have travel facilities. If this method of transportation is used, a complete county x-ray schedule along with the school bus schedule should be mailed to every box holder on all rural routes within the county.

In organizing the smaller communities throughout the county, a member of the board of directors of the tuberculosis association who lives in that particular community could arrange for all the meetings, at which the committees should be organized and plans carried out as outlined.

If all persons connected with the dissemination of news and information in the county will recognize the importance of finding tuberculosis or other pathologic conditions early, and also of protecting sound persons who might become infected, they will have extended wholehearted cooperation to the campaign.

VOCATIONAL REHABILITATION FOR THE TUBERCULOUS*

By E. M. ASHWORTH
Chief, Rehabilitation Services,
Division of Vocational Rehabilitation,
Department of Education,
Charleston, West Virginia

I am sure there is no dispute as to the importance of furnishing rehabilitation service to the disabled; however, it is hoped that the number of persons who require this service will be reduced year by year, since rehabilitation is the link in the chain of services which begin with another major responsibility: prevention of disease. But the day is yet far off, I am afraid, when all disabilities will be prevented, and until then we shall continue to be confronted with persons who need physical and vocational rehabilitation.

It is my purpose to give you the overall scope of vocational rehabilitation as it works in West Virginia and to explain our new services for those persons disabled by tuberculosis.

The movement for the rehabilitation of civilians began with workmen's compensation in the early part of the 20th century. Twelve states, including our neighbor state of Virginia, enacted rehabilitation laws prior to World War I. In 1920, Congress passed the first Civilian Rehabilitation Act and almost immediately thereafter the states established rehabilitation services for their disabled citizens.

The 1920 Act had serious limitations. It authorized vocational rehabilitation for persons with physical handicaps, but excluded those with mental impairments. There were no special services provided for the blind. It did not provide medical care, hospitalization, and maintenance during rehabilitation.

In July, 1943, the Barden-LaFollette amendments to the 1920 Act (Public Law 113) became effective, thus giving new breadth and scope to vocational rehabilitation programs. In 1945, our West Virginia Legislature enacted house bill No. 169, one of the most progressive pieces of rehabilitation legislation on the statute books of any state. Today our state can provide any service needed to rehabilitate into employment any man or woman who has an employment handicap.

Under the new program provision is made for various types of services in order to render persons, handicapped from whatever cause (accident, disease, or congenital defect), capable of engaging in remunerative employment, or of being employed more advantageously on a normal competitive basis; and for the first time federal funds are made available for physical restoration. Physical restoration services are expected either to remove substantially or eliminate entirely the employment handicap (which must be relatively stable, and remediable within a reasonable period).

Physical examinations, counseling, training and placement, are available free, a medical examination being a requirement for the determination of eligibility. Medical treatment, including hospitalization up to ninety days, and prosthetic devices, transportation, maintenance, instructional supplies, occupational tools, and equipment are provided without cost if the applicant is unable to pay for them.

Stated in brief outline, the rehabilitation of an individual covers nine integral factors, all or part of which may be required for successful adjustment:

1. Early location of persons in need of rehabilitation in order to prevent the disintegrating effects of idleness and hopelessness.
2. Medical diagnosis and prognosis, coupled with a vocational diagnosis as the basis for determining an appropriate plan for the individual.
3. Vocational counseling to select suitable fields of work by relating occupational capacities to job requirements and community occupational opportunities.
4. Medical and surgical treatment to afford physical restoration and medical advice in the type of training to be given and in the work tolerance of the individual.
5. Physical and occupational therapy and psychiatric treatment as a part of medical treatment where needed.
6. Vocational training to furnish new skills in cases in which physical impairments incapacitates for normal occupations, or in cases in which skills become obsolete due to changing industrial needs.
7. Financial assistance to provide maintenance and transportation during training.
8. Placement in employment to afford the best use of abilities and skills in accordance with the individual's physical condition and temperament, with due regard to safeguarding against further injuries.
9. Follow-up on performance in employment to afford adjustments that may be neces-

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sary, to provide further medical care if needed, and to supplement training if desired.

The program of civilian vocational rehabilitation is administered by a federal-state plan under the Federal Security Agency, which, in September 1943, established the Office of Vocational Rehabilitation as a constituent unit.

Federal funds are now available to West Virginia and her sister states to pay for administrative personnel and facilities necessary for the vocational rehabilitation program. In addition, the government pays on a fifty-fifty basis for services, appliances, and materials to individuals. In West Virginia the Division of Vocational Rehabilitation operates the program for the physically and mentally disabled as well as for the blind. We perform our services through nine rehabilitation offices, with 20 counselors, located in the following cities: Clarksburg, Parkersburg, Wheeling, Martinsburg, Charleston, Huntington, Beckley, and Bluefield. These offices are so located as to guarantee complete and comprehensive coverage of all parts of the state.

Following is West Virginia's rehabilitation record for the fiscal year ending June 30, 1946: A total of 7,599 disabled men and women were registered. Services were rendered to 4,388, and jobs were found for 773 of this number. In 836 cases, interview, counseling and guidance were sufficient for vocational adjustment and 4,484 persons were still on our rolls at the end of the fiscal year. The total yearly earnings of the persons rehabilitated into employment are estimated at $1,314,000 or an average annual earning per person of $1,700. The state provides $105,000 annually for this program and the federal government provides $240,000.

From the point of view of both federal and state treasuries, and of the disabled themselves, experience has demonstrated that the best approach, as well as the most economical, is an appropriate program for vocational rehabilitation. Where a disabled person may be made fit for employment through rehabilitation, and become a taxpayer rather than a tax consumer, it would seem poor economy to deny him these necessary services. This is the dollars and cents justification.

The difference between unemployment and dependency, and employment and self-support as it affects both the individual and society, cannot be limited to entry in the financial ledger. Vocational rehabilitation, as it concerns the reestablishment of independence, the utilization of abilities, and the development of skills, has values that are also measured in terms of citizen morale, community strength, and national security.

The term "rehabilitation" has been given various interpretations. It is defined by the National Council on Rehabilitation as "the restoration of handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable". In applying the term specifically to a former tuberculosis patient, we consider the individual "rehabilitated" who has permanent employment in work he can do without overtaxing his strength, which gives him an income sufficient to maintain his physical health, and in which he is comparatively happy.

To meet the foregoing requirements, employment must have certain clearly defined characteristics. Working hours must be reasonable. The place of employment must be located at a moderate distance from the former patient's home to avoid the fatigue imposed by lengthy travel to and from work. The job should not involve heavy physical exertion, working with high speed machinery, piecework, or hours of standing. From the point of view of avoiding accumulated fatigue, it is important that the occupation be suited to the individual. It is obvious that environmental conditions should present no danger to health.

In West Virginia we find a large number of tuberculosis patients who previously have made their living doing heavy work in industry. This means that to meet the above requirement for work after the patients are medically discharged, many of them must be re-trained for new jobs if they are to follow the doctor's advice.

We are today in a new era regarding the vocational rehabilitation of persons handicapped by a history of tuberculosis. The satisfactory experience of pioneers who completed the first few thousands of such rehabilitations, and the reassuring counsel of specialists and of industrial physicians, have removed many old barriers. Yet, despite the prevalence of tuberculosis in many states, no state office for vocational rehabilitation has been overrun with applications for service from persons in this field of disability.

In 1945 our West Virginia Division received 3,558 referrals from all sources. Of this number only 100 (or 2.8 per cent of the total) came from tuberculosis sanatoria. During this same year 827 handicapped individuals were rehabilitated. Of this number 33 (or 3.6 per cent of the total) were tuberculosis patients in whom the disease had been arrested. In the United States during 1945,

7.3 per cent of all rehabilitations fell into this same category.

In 1946 our Division has had thus far a total of 3,516 cases referred. Of this number 123 (or 3.5 per cent) have been from sanatoria.

If modern treatment of tuberculosis enables more patients to survive their illness, if a suitable plan of life is an important part of permanent recovery, why is it, then, that so few patients in the past have applied of their own initiative for vocational rehabilitation service? In many instances, no one has informed the patient that West Virginia offers such a service. At best, the patient encounters the words "vocational rehabilitation" too seldom and too casually to associate them with his predicament. From so remote and unfamiliar a term as "rehabilitation", thousands of patients who might be served turn instead to inexpertly devised plans of their own, causing them to return to the sanatorium, sometimes with fatal consequences.

Printed circulars, interviews with doctors, and increased contact with medical and health organizations have begun to change this state of affairs. To achieve optimum results, it is essential that the doctor, the nurse, and the social worker think in terms of rehabilitation as automatically as the vocational rehabilitation counselor has learned to think in terms of preliminary physical restoration.

During the past year our Division has given special attention to a study of the rehabilitation of the tuberculous in West Virginia with the hope that we might be able to establish a sound In-Sanatorium program.

In March of this year it was my privilege to attend what was known as an Institute on Special Techniques in Rehabilitation of the Tuberculous, held in Cleveland. This institute was sponsored by our Federal Rehabilitation Office in cooperation with the National Tuberculosis Association. Eighteen states sent delegates representing state tuberculosis associations, state health departments and state divisions of vocational rehabilitation. Our group spent one day during the week observing the in-sanatorium program at Sunny Acres, Cleveland Tuberculosis Sanatorium. Mr. Holland Hudson, Director of Rehabilitation Services for the National Tuberculosis Association, outlined an in-sanatorium program which the state representatives agreed was sound and which West Virginia has adopted in part.

In setting up the West Virginia program, our Division has corresponded with other state rehabilitation directors who have had in-sanatorium programs for a number of years. We have met with specialists in this field and have secured their council and advice.

In setting up our plan, the first steps were to explain our services and ask for suggestions and recommendations from representatives of the following groups: superintendents of our state sanatoria, the state tuberculosis and health association, state health department, and the state Board of Control. In each case we were assured of complete cooperation in effecting an immediate and a long range program. We have been aware that a full and adequate program cannot be set up in a short period of time. We have been aware, also, that programs that work in other states might fail in West Virginia. With these facts in mind, we have started an immediate program which can be carried out and gradually expanded without elaborate equipment, large expenditures of money and without changing the administrative procedures of any of the cooperating departments.

On July 1, 1946, we reduced by one-half the case load of four rehabilitation counselors in order that they might be able to devote more time to patients in the sanatorium. Each of the counselors now has one or two full days each week in which to interview, guide and counsel those patients in the sanatorium who are eligible for our services. More time will be allotted for this work as the counselor surveys the patient population and becomes better acquainted with the needs of the patients and with sanatorium procedures and regulations.

In our instructions to these four counselors, the opening statement reads: "All policies and procedures relative to in-sanatorium rehabilitation programs must be approved by the superintendent of the sanatorium who is responsible to the state Board of Control for the administration of the sanatorium."

"Some important questions to answer regarding our in-sanatorium program for pulmonary tuberculosis clients are: When and how should patients be selected for our services? Who should be selected?

"Rehabilitation should be made available to those patients for whom there exists reasonable expectancy for improvement. For rehabilitation purposes, then, such a prognosis might be described as 'good'. Those patients whose prognoses are considered by the physician to be 'good' would constitute the group to be studied further by the rehabilitation counselor. The 'rehabilitation diagnosis', based on realistic ap-

praisal of each individual's educational, vocational, socio-economic and intellectual status, together with information on his interests, aptitudes and native abilities, would indicate those feasible for and in need of rehabilitation. In the selection of clients for rehabilitation, the medical prognosis should be given primary consideration.

"The next step concerns the actual rendering of rehabilitation services. This, too, must be considered primarily from the clinical point of view because basically the prescribing of rehabilitation for a patient is quite similar to the prescribing of other forms of therapy. In prescribing for an ill person the physician must, first, on the basis of careful diagnosis, knowledge and experience, choose the proper drug and route of administration, and, next, give consideration to the amount or dose which would be optimum for that patient in that particular condition. The same principles would apply with respect to prescribing rehabilitation procedures.

"Rehabilitation procedures, like other forms of activity, must be presecribed primarily within the physical capacities of the individual. This means collaboration on each case by the physician and the rehabilitation counselor. The physician prescribes, and the rehabilitation counselor carries out the prescription. The dosage should be controlled through the medium of repeated clinical evaluation of the patient's condition.

"On the basis of the rehabilitation diagnosis and the patient's condition an appropriate vocational objective is planned and the rehabilitation program is adapted to suit that particular individual's condition, needs, and abilities. Such vocational redirection and guidance are given as may be needed in achieving the goal of suitable postsanatorium employment.

"It is anticipated that in general the younger patients with good prognosis will be more susceptible to the benefits of rehabilitation than elderly patients with advanced disease, but this service should be made available on the basis of careful study and evaluation of all patients."

The following statement was taken from the recent report of the Committee on Rehabilitation of the American Trudeau Society. The Committee is of the opinion that rehabilitation of the patient rightly begins after the diagnosis of tuberculosis has been made. The statement reads: "Any good In-Sanatorium rehabilitation program should include several closely related activities: social service, occupational therapy, vocational testing, counseling and prevocational training of various types, and patients' educational activities. The ultimate aim is to find patients' vocational possibilities and to see that necessary training is obtained, so that employment may become available when the patient's physical condition permits and after training has been completed. If these occupational plans are carried out the dangers of relapse are greatly diminished. The program has a distinct practical value to the community and to the nation, for it is definitely a part of the tuberculosis control program as well as a part of the program to insure manpower. In addition, it provides a goal for the patient which aids in maintaining his morale and in obtaining his cooperation in the prolonged treatment required in tuberculosis."

Our Division was pleased to find the following recommendations written in Part V of the Survey of the Tuberculosis Institutions of West Virginia conducted by the United States Public Health Service. It reads:

"Rehabilitation is an important part of the tuberculosis program. Rehabilitation of the patient must begin while he is still in the hospital, and carried to a successful conclusion after discharge. This is necessary, not only for the patient's welfare, but also for the protection of the heavy financial investment in each patient who is treated at public expense. There is a need in West Virginia for remediable measures to provide for patient education and rehabilitation (including occupational therapy), and vocational guidance and training during the period of his hospitalization. Such facilities will encourage patients to remain in the sanatorium until medically fit for discharge, and prepare them for an adjustment to a new life facing them upon release."

With your continued assistance and with the cooperation of all organizations interested in the handicapped citizens of West Virginia, I feel confident that the foregoing recommendations can be realized and that West Virginia will have a rehabilitation program for the tuberculous which will be a credit to any state.

SINUS DISEASE IN CHILDREN

The same diagnostic procedures that are employed in adults should be carried out in children for the diagnosis of sinus disease. In general, treatment should be of a conservative nature. Removal of the tonsils and adenoids should not be done unless definitely indicated. The routine use of chemotherapy is undesirable. The type of organism found in the sinuses should indicate the chemotherapeutic agent to be employed. Whenever drainage of the sinuses is necessary, it should be carried out by the simplest method.

Sinus disease of allergic origin must be treated primarily as an allergy. In both types of sinus disease, attention to the general health is of the greatest importance. Carlyle G. Flake, M. D., in New England Journal of Medicine.

PSYCHOTHERAPY IN THE TREATMENT OF TUBERCULOUS PATIENTS*

By JOSEPH L. KNAPP, M. D.
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Psychotherapy is a very essential factor in the treatment of tuberculosis, yet, unfortunately in reviewing the literature one finds very little on the subject. I wish at this time to express my appreciation to Doctor Salkin, Superintendent of Hopemont Sanitarium, for his cooperation in furnishing me his ideas on the subject, based on his extensive experience.

First, for the matter of clarification, let us consider the term, psychotherapy, as any means that can be used to assist the patient's adjustment prior to, during, and after hospitalization.

The psychotherapy in treating tuberculous patients very naturally falls into three distinct phases: (1) psychotherapy of the tuberculous patient prior to his hospitalization, (2) psychotherapy while the patient is in a tuberculosis hospital, and (3) psychotherapy after the patient has been discharged from the hospital and returned to his community. You, as professional people and trained lay personnel in the field of tuberculosis, are naturally interested in the psychotherapeutic treatment as its concerns the first and the last of the above phases, i. e., psychotherapy before and after hospitalization. On you falls the difficulty of informing the patient, as well as his family of the fact that he has tuberculosis and is in need of hospitalization. On your shoulders falls the great responsibility of putting the patient and his family in a receptive frame of mind concerning such hospitalization.

Everyone in the field of tuberculosis should keep in mind the fact that the knowledge to any person that he has tuberculosis brings with it terrific psychic shock and mental trauma. It means: (1) that he must be separated from his family and friends for a long, indefinite period of time, (2) that there will be prolonged delay and, unfortunately in many cases, complete frustration of all the plans and hopes the patient had for the future, (3) that there is created the economic problem of the family's welfare and maintenance during the period of the patient's hospitalization (and in many cases this is indeed a serious and difficult problem in itself), and (4) that the patient is engulfed in the natural fear of complete permanent invalidism, and possible death.

The foregoing are some of the basic problems with which every patient, when informed he has tuberculosis, is confronted, plus all of the individual ramifications in each particular case. Is it any wonder that terrific psychic shock ensues? It should be remembered that the family, as well as the patient, is confronted with these same basic problems. One must bear in mind always that the family, too, requires psychotherapy. The very best treatment, with proper psychotherapy, can be given the tuberculous patient, but if the family is not taken into consideration, comparatively little will be accomplished. The proper mental attitude of a tuberculous patient can be compared with the successful operation of an airplane. It takes a good pilot (which is the patient), as well as a good ship (which is the family).

When an active case of tuberculosis is found, the entire problem, as well as all information about tuberculosis, should be given to the patient and the family separately, and then both should be seen together at which time many points may be enlarged upon. The seriousness of the condition should not be understated, yet the proper attitude of encouragement should be maintained.

All necessary economic arrangements for the family should be made before the patient enters the hospital. This, in itself, will relieve a definite amount of distress seen in tuberculous patients who have been hospitalized. In not infrequent instances, the patient shows a great deal of anxiety over the economic problems of the family which markedly inhibits his recovery in the hospital.

The probable length of the period of hospitalization should be discussed quite frankly with the patient and the family. There is a tendency to be overly optimistic when talking to the patient concerning the required length of time of the hospital stay. While it is true that the problem of having a patient and his family accept the idea of hospitalization will be easier if they are told that it will be for only three or four months, this invariably proves a boomerang to all concerned. It is the general opinion that most patients will require one year or more of hospitalization. If the patient and his family are so informed from the beginning, and it turns out that the patient is sufficiently well to be released in a shorter period of time, no harm will have been done. On the other hand, if these people are told that the hospitalization period probably will not exceed three months, and if, at the end of that time the patient is not sufficiently well to leave the hospital, the patient, as well as his family, will feel discouraged and apprehensive as to the outcome

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of his illness. Both become dissatisfied and not infrequently the patient leaves the hospital too soon, thus quickly undoing all the good that has been accomplished in his case. So far, I have discussed the psychotherapy of tuberculous patients up to the time they are hospitalized. This phase of the work is directly the responsibility of the people in the field.

Psychotherapeutic treatment of the patient after he has been hospitalized is the responsibility of the hospital staff. A considerable amount of psychotherapy is practiced at Hopemont as well as at all tuberculosis sanitariums, and it is their feeling that a full time, or at least a consulting, neuropsychiatrist should be on the staff. At Hopemont an especially prepared pamphlet is given to each new patient. This pamphlet contains a very detailed description of the disease and even includes a glossary of medical terms with simple, clear-cut interpretations. Classes in academic work are started as early as the patient's physical condition permits, provided such work is indicated. This is true in the case of adults as well as of children. A program of vocational re-training should be begun very early. It is quite obvious that the average patient with tuberculosis in many cases can no longer follow his particular type of work, even after recovery. For example, it would not be advisable for a person who has recovered from tuberculosis to go back to work as a coal miner.

The entering of any patient in a tuberculosis sanitarium presents to him an enormous problem in readjustment. He finds himself separated from his family and friends. He must develop a new philosophy of life; he must be reasonably content to spend weeks, or possibly months, in bed with little contact with the outside world; he must learn how to relax. At best, it is a very abnormal life. The tuberculous patient must develop a will and a determination to cooperate with the treatment, and, above all, a will to fight and to live. This latter point is of such great importance that in some hospitals extensive surgery (such as a thoracoplasty) on patients who have not developed such a will, and who are fearful, is avoided if at all possible. The reason for this is that the morbidity and mortality rate in cases of surgical patients who are fearful is too great in comparison with that of those patients who are optimistic and who have developed the will to live.

It is a well known fact also, that the staff members must be constantly alert as to their own reactions. The patient usually reflects the attitude of his attending physician. If the latter is pleasant, cheerful, and encouraging, the patient tends to react in the same manner. However, if the doctor should be brusque, or inconsiderate or unwise in his casual remarks, the patient reacts in an inverse manner which is detrimental to his recovery. Therefore, it is essential for the physician constantly to keep in mind that he is dealing not merely with a pair of diseased lungs, but with the sum total of the individual and his personality. In brief, it is necessary not only to treat the patient's lungs, but to bring about an entirely different outlook on life with, in many cases, a re-training for livelihood and a complete resocialization.

It is my opinion that group psychotherapy is an extremely valuable and necessary adjunct in the treatment of tuberculosis. We have heard a great deal about group psychotherapy during the past few years, but just what is it, and how is it practiced? It is psychotherapy in mass style. It has been found extremely effective in treating men with neuroses in the armed services. It is a means of administering therapy to the largest number of patients with the smallest number of trained personnel.

How can group psychotherapy be adapted to the treatment of persons with tuberculosis? The therapeutic sessions should be conducted by a person trained in this line of work. He should outline briefly one of the phases or types of treatment used for tuberculosis, such as pneumothorax. This could be done with or without accompanying lantern slides. However, lantern slides have been found to be very effective. The group of patients should then discuss the subject in full, the patients themselves answering the questions raised by other members of the group. Nothing will so quickly convince a person of the effectiveness of a certain type of treatment as the testimonial of another person who has had the treatment. Later on, as the patients in the group approach recovery, they could, with considerable benefit, discuss their plans for the future and the problems they will have to face after leaving the hospital. It is well known that the general public still looks upon a recovered tuberculous patient with some apprehension. In connection with group psychotherapy, a considerable amount of individual psychotherapy also is necessary in certain cases. In view of the fact that the mental attitude of the tuberculous patient plays such an important part in determining the final outcome of the disease more consideration should be given to it.

While the full care of the patient during the

period of hospitalization is the responsibility of the staff, the continued psychotherapy of the family is the responsibility of the group workers in the field. Contact with the family should be maintained without going to the point of being meddlesome. In a tactful manner the members of the family should be encouraged to write to the patient frequently, using care as to the content of the letters. The economic situation of the family should be checked on and additional assistance given when indicated. Relatives should be urged to pay frequent visits to the patient, it being pointed out that most visits are of distinct therapeutic value.

We now come to the third phase in psychotherapy for the treatment of tuberculous patients, i. e., psychotherapy after they have left the hospital. An excellent job has been done in educating the public as to the necessity of x-rays and the early diagnosis and treatment of tuberculosis, but I do not feel that we have been entirely successful in educating the public in the matter of accepting a recovered tuberculous patient back into the community. There is still in many minds the old concept, "once tuberculous, always tuberculous," and many people feel that close association with anyone who has had the disease is dangerous. It is the definite opinion of some of the field workers that many of the relapses in cases of tuberculosis can be attributed, at least in part, to the fact that the cured tuberculous patient is shunned.

A definite program should be started to educate the public in general that patients who have recovered from tuberculosis are *not infective,* and I urge every worker in the field to overlook no opportunity to bring this fact before the public.

Prior to his discharge from the hospital, the patient's family should be contacted and the whole matter of his return home should be discussed with them. The need for certain restrictions of the patient's activities should be explained in detail, but the family should be cautioned not to treat him as an invalid but as a person who has had a serious illness and is well again.

The patient himself should be seen shortly after his return home. It should be pointed out to him that certain individuals will have a tendency to stay away from him and that he should be prepared for this situation. Every assistance should be given him in obtaining reemployment in his old field of endeavor, or in gaining adequate training and reemployment in a different type of work, if necessary. He should be encouraged to again take up a normal social life and to develop interest in hobbies. These matters will have to be handled with a great deal of tact and in a spirit of friendliness and cooperation. The value of the whole program will be lost if the former patient is made to feel that you are trying to direct his life for him.

It might be well for these persons to form a club or group wherein they could discuss their conditions and problems with mutual benefit. Such a group would be of invaluable assistance to the patient just discharged from the hospital. This plan has proved very successful in cases of persons who have recovered from mental disease, and should even prove more successful with persons who have recovered from tuberculosis.

To digress somewhat, the Weston State Hospital has been designated for the care of all mentally ill tuberculous patients. At present, we have over 200 such cases. It was deemed advisable by the Board of Control to treat all such patients in one hospital rather than various numbers of them in each of the three state mental institutions.

With the excellent cooperation of the State Board of Health, we have just recently completed a tuberculosis survey of all patients at Weston State Hospital. To my knowledge, this is the first instance of its kind at Weston, although for a number of years similar surveys have been conducted throughout the state. Within the next few months a tuberculosis survey will be conducted at both Huntington and Spencer State Hospitals, and all of the mental patients found to have tuberculosis in the active stage will be transferred to Weston State Hospital. On the basis of preliminary reports on the survey made at Weston plus the findings in similar surveys, it is estimated that we will have approximately 400 cases of active tuberculosis under treatment at Weston. I wish to point out that this figure represents almost a third of all the tuberculosis cases hospitalized in the state of West Virginia.

The care of the tuberculous patient who is also mentally ill has been inadequate, to say the least, this being the state of affairs throughout most of the United States. In the care of this type of patient we are confronted with the difficult problem of treating not only a tuberculous patient, but one who, as a result of his mental illness, is not infrequently uncooperative.

We have the full cooperation and assistance of the staff at Hopemont Sanitarium. However, I again wish to point out to you the immensity of the problem of treating a large number of tuberculous patients at Weston. We have an appropriation of forty-seven cents per patient day for food, and eleven cents of this amount is from

the federal government in the form of surplus commodities which might be discontinued at any time. As everyone can well appreciate, it is impossible to provide an adequate diet for tuberculous patients on even forty-seven cents per day.

At present, we have one doctor and one graduate nurse caring for over 200 tuberculous patients; we have also a limited number of attendants who are required to work twelve hours per day and who have only two days off per month.

It is my desire to provide modern and adequate treatment (including surgery when indicated) for our mentally ill tuberculous patients. To accomplish this will require a great deal more in the way of appropriations for our mental hospitals than is available at present.

I feel that you, as a group of people vitally interested in the control and treatment of tuberculosis, should be equally interested in the care of the mentally ill in our state. We cannot adequately control and treat tuberculosis in West Virginia without being concerned with the care of our mentally ill and the treatment of the mentally ill tuberculous patient.

SUMMARY

Psychotherapy plays an important part in the treatment of tuberculous patients. Such therapy falls into three distinct phases: (1) psychotherapy of the patient and the family prior to the patient's hospitalization, which is the responsibility of the worker in the field, (2) psychotherapy of the patient while he is in the hospital, which is largely the responsibility of the hospital staff, and (3) psychotherapy of the patient after he has left the hospital, which, again, is the sole responsibility of the worker in the field.

Under phase No. 1, the field worker should discuss fully the problem of tuberculosis with both the patient and his family. Definite arrangements for the economic care of the family should be put into effect prior to the patient's hospitalization. The patient as well as his family, should be told frankly to expect to remain in the hospital for one year or longer.

During the second phase, psychotherapeutic treatment of the patient should be carried out by means of a well organized educational and occupational re-training program, the application of both group and individual psychotherapy, and the continued psychotherapy of the family in encouraging its members to write to the patient frequently, and to visit him often.

In the third phase, the responsibility of psychotherapeutic treatment falls once more upon the shoulders of the field worker. The treatment at this time, i. e., after the patient has left the hospital, should consist of the inauguration of an educational program directed toward the public, to the effect that recovered tuberculous patients are *not* propagators of the disease; of contacting the family prior to the patient's arrival home; of contacting the former patient himself, giving him every possible assistance in his efforts at readjustment; and, possibly, of organizing groups of cured tuberculous patients for the purpose of meeting and mutually discussing their progress and problems, and of helping each other.

The control and treatment of tuberculosis in the state of West Virginia should include in its course of action those patients in our mental hospitals who are afflicted with the disease, and you, as individuals interested in this field of endeavor, should be leaders in advancing the program of adequate treatment for our mentally ill tuberculous patients as well as for those relatively more fortunate.

SOIL IN RELATION TO HEALTH

Whatever the cause, whether from the gradual realization of the importance of conserving our resources, or from the lessons learned through the war years, we have come to a realization recently that there is a relation between the character of the soil and the people living thereupon. This observation has led some scientists to inquire into the causes of this condition.

In the United States one of the early records which link soil composition to animal health was made by Owen in Kentucky in 1857 when he noted the vast difference in animal growth on the limestone soils as compared with animals on soils from the carboniferous rocks. Analysis of these soils showed fourteen times as much lime, three times as much phosphoric acid, and twice as much potash in the limestone soils than was present in the sandstone soils. The animals grazing on the limestone soils were described by Owen as being "almost a year in advance in bulk, weight, and form to the stock raised on the soils derived from the coal measures."

Within this 90-year period since Owen's observations there have been many similar observations made on both animals and humans. Bone deficiencies, teeth deficiencies, goiters, skin diseases, and other maladies have been noted and their relation studied and proved. The recent data on rejections of young men for military service have focused our attention on mineral deficiencies in certain areas, in particular the large number rejected because of bad teeth. This condition seems to be particularly evident in the carboniferous areas where the soils are notably deficient in calcium and phosphorus.—C. R. Horton, Ph. D., in Ohio State Med. J.

THE TREATMENT OF PULMONARY TUBERCULOSIS

By DAVID SALKIN, M. D., Superintendent,
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According to the latest reports, streptomycin is not a specific for tuberculosis in humans. At best, it will take its place as an adjunct to the established present-day methods which have been fairly well standardized in the past two decades. The only great mode of therapy still is rest—general and local, physical and mental, medical and surgical.

The *mental* factor in rest is very important, for physical rest cannot be obtained when the patient is constantly disturbed. He should be free from financial and domestic worries, and should have an optimistic outlook. The cure is long and the patient's entire philosophy must undergo a change. To obtain mental rest the patient must have the help of his physician, psychiatrist, social service worker, rehabilitation worker, and various welfare agencies.

General *physical* rest is a term too often misinterpreted. True bed rest means that the patient is in bed 24 hours per day. Even this may vary from lying flat on the back and being washed and fed, to a considerable degree of activity while in bed. This period of weeks or months is followed by a graduated system of exercise ranging from one bathroom privilege daily to full and normal activity. This phase may take months or years and depends upon numerous factors such as the extent and character of the disease, the treatment used, and the patient's response to treatment. This program of bed rest and exercise is modified under special circumstances as in older people, minimal cases, or the presence of emphysema.

Local rest of a nonsurgical nature includes such methods as controlled diaphragmatic breathing, head-low posture, compression belts to limit costal or diaphragmatic motion, and shotbags on the chest. These methods are of little value and rarely used.

The *supportive* treatments of value include an adequate well-balanced diet and the judicious treatment of such symptoms as anorexia, insomnia, cough, pain, and nervousness. Fresh cool air has a general stimulant effect but no specific virtue in tuberculosis. Heliotherapy is of little value in the average case and, if used, must be closely supervised. Climate and altitude have no specific effects.

The *surgical* measures most commonly used as a form of local rest are pneumothorax, phrenicotomy, and thoracoplasty. The other collapse measures are used less commonly and have narrower indications but are of no definite value. They include the extrapleural pneumonolyses, open intrapleural pneumonolysis, paraffin plombage, and pneumoperitoneum.

The lung is an elastic viscus held under a constant tension which can be relaxed in several ways and cause a reduction in lung volume. It may be accomplished by injecting air between the pleural layers, by interposing air or paraffin extrapleurally, by paralyzing the diaphragm or intercostal muscles, or by removing the ribs which hold out the lung. In all these procedures, the lung is reduced in volume by its own elastic recoil; it is collapsed by the relaxation of its tension. The additional local rest so produced gives better results than the use of general rest alone and the number of cures is high. However, if the subject were just that simple then every case should have some form of collapse. Indeed, in the not too distant past, such was the policy of many phthisiologists. In time, however, this zeal was tempered by the numerous complications. The proper use of surgical collapse measures requires a discerning clinical judgment whereby collapse and bed rest are evaluated for a given case with regard to complications and the other numerous factors.

Intrapleural pneumothorax, first suggested by Carson in 1822 and used by Forlanini in 1892, is a mainstay of collapse therapy. It is used only occasionally in minimal disease and frequently in advanced cases. It is often a life-saving procedure and must be considered seriously in all cavernous cases. Its broad indications include the failure of a period of bed rest, advanced lesions not likely to be controlled by bed rest, recurring or progressive minimal disease, cavities over 2 cm. in diameter, progressive exudative disease, the presence of tuberculosis of the larynx or bronchi or intestines, and the presence of pregnancy. Bilateral pneumothorax, introduced by Ascoli in 1912, is used in about 10% of pneumothorax cases and excellent results are obtained in properly selected patients. The indications are the same as those in unilateral pneumothorax. The complications are numerous but the important common ones are tuberculosis empyema and functional damage to the more normal portions of the lung. A pneumothorax must be made effective in several weeks or abandoned.

The presence of *intrapleural adhesions* is the chief cause of an ineffective pneumothorax and, where possible, should be severed. The closed intrapleural pneumonolysis was introduced in

1912 by Jacobaeus and is used with great frequency. There is a tendency now to use it early in pneumothorax collapse so as to bring about cavity closure as soon as possible.

Phrenic nerve surgery to cause paralysis of the diaphragm was proposed by Stuertz in 1911. It is not as popular now as it was ten years ago, but is still used sufficiently to be classed as a major form of collapse. The common technique used is to crush a small segment of the nerve to produce a temporary paralysis of 4 to 12 months. Phreniclasis may be used independently in some types of productive lesions or thin-walled caverns under 4 cm. or in minimal and moderately advanced cases. It may be used in conjunction with pneumothorax to relax thick adhesions, in obliterative pleuritis, or to decrease the size of the pleural cavity. Its contraindications are few and, if done in properly selected cases, has so few complications as to make it an extremely safe procedure.

Thoracoplasty has undergone great revisions since 1885 when it was first performed by de Cerenville and is now the permanent collapse of choice. Although most thoracoplasties are done after failure of other methods (such as pneumothorax) an increasing number is being done primarily in selected cases.

The excellent results obtained with thoracoplasty have been due to the greater knowledge of medical tuberculosis by the surgeon, the proper selection of cases, the freer use of blood and plasma, the freer use of the bronchoscope, and the advances in anesthesia. In the hands of a good anesthetist almost any anesthetic agent may be used, and closed ether has regained its proper place in thoracic surgery. The ideal cases for thoracoplasty include patients in good condition, under 45 years of age, productive disease, cavity under 6 cm., good pulmonary reserve, no heart disease, a unilateral lesion, or a contralateral one which is under control. In actual practice, less ideal conditions are present most often. In trained hands with good teamwork, one may expect cavity closure in over 80% of the cases.

More recently, *surgical resection* of the tuberculous lesions in the lung has been used and although it is still in an experimental stage the indications for lobectomy and pneumonectomy are being gradually evolved. Its use will never be widespread because pulmonary tuberculosis is a general disease involving parenchyma and lymph nodes. Removal of a part of a lung does not ensure that the other lung will not show an active lesion soon afterwards. Resection of a lobe or the whole lung removes merely the most obvious disease. However, resection should be considered in (1) residual cavitation after an adequate thoracoplasty, (2) tuberculosis associated with extensive bronchiectasis, (3) a large basal cavity which has persisted after a pneumothorax and a phrenicotomy and which a thoracoplasty would not likely close, (4) some cases of disease recurring in one lobe, (5) tuberculomas. The great drawbacks to resection have been the relatively high incidence of spreads and the reactivation of supposedly healed lesions in the other lobes or in the other lung.

Sanatorium regime and the proper use of medical and surgical rest give a high percentage of cures depending almost entirely upon the type of case admitted. At the present time, minimal tuberculosis can be arrested in 95% of the cases, moderately advanced in 80 to 90%, and far advanced disease ranging from 80% down to zero. Unfortunately, about 70% of our admissions are far advanced.

WINNING FIGHT AGAINST TB

Through a well-coordinated and vigorous attack, it should be possible virtually to eliminate tuberculosis as a cause of death in our country within a generation.

The achievements of the campaign against tuberculosis up to now constitute a brilliant chapter in the history of preventive medicine and public health. Since the turn of the century the death rate from the disease in the United States has been reduced about four fifths—from approximately 200 per 100,000 to about 40. In the white population the disease is now a relatively minor cause of death, the rate being about 30 per 100,000. Moreover, in large areas of the country the tuberculosis problem has already been reduced to almost negligible proportions.

The prospects are indeed bright for continuing the successful attack on the disease. In the first place, the chances of becoming infected are now greatly diminished, both because there are fewer active cases to serve as foci of infection, and because people generally are living and working under more healthful conditions, are better fed, and have more adequate knowledge of personal hygiene. Furthermore, facilities for detecting existing cases have rapidly multiplied over the years, with the result that a greater proportion of unsuspected infections are being discovered in the early stages, when the chances of cure are best. In this connection, special mention should be made of the use of mass X-ray in schools and colleges, in factories, and in entire communities. Similarly, X-ray examination as a routine procedure is being used to an increasing extent on patients admitted to hospitals.

For the cases which are discovered, medical and nursing care are better now than ever before. The anti-tuberculosis movement as a whole has been geared up to more intensified action through the availability of increased funds and through the impetus given by the organiation recently of the Tuberculosis Division of the U. S. Public Health Service. Altogether, the stage is set for a great victory over the disease in the next two decades.—Metropolitan Life Insurance Company's Statistical Bulletin, Nov., 1946.

RECENT PROGRESS OF THORACIC SURGERY PERTAINING PRINCIPALLY TO TUBERCULOSIS*

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In a discussion of the recent progress in thoracic surgery as it concerns tuberculosis, it would be most unfair to attribute such progress to the surgeons without giving due credit to the background and aids developed by allied branches of medicine.

BACTERIOLOGY AND DRUGS

There have been many developments in bacteriology, such as improvements and more sensitive agents in cultural methods, which have aided in more rapid differentiation of tubercle bacilli from other acid-fast organisms. Methods of collecting specimens for examination have improved. Many years ago the only specimen ever examined for tubercle bacilli was the sputum obtained from the patient. Now, if the sputum does not reveal tubercle bacilli in a patient who is suspected of having tuberculosis, gastric washings are immediately examined. This method is especially valuable in children and in adult patients with minimal or noncavernous pulmonary tuberculosis.

Sulfa drugs have played an important role in preventing or curing wound infection which, although not frequent, does occur sometimes. The more recent discovery of penicillin and its wide use has in general tremendously simplified thoracic surgery. This is particularly true in intrathoracic operations for resection of a part or all of a lung, by lessening the number and severity of infections. As a rule, infected wounds following thoracoplasty are controlled quickly with these relatively new drugs, resulting not only in lessening the morbidity of the patient but also in greatly reducing the period of time between stages of the operations.

CASE FINDING

The value of screening and mass surveys by x-rays, as carried out by national organizations such as the United States Public Health Service, and state, county, city and local groups, such as your own organization, cannot be over-estimated. The routine x-rays of men and women who joined the armed forces during the recent war have been of great value. Many hundreds of cases of early or moderately advanced tuberculosis have been found in these surveys which otherwise would not have been found for some time. The mass surveys of food handlers in restaurants and hotels as well as surveys of school children and other groups of persons in stores, shops ,etc., have led not only to the finding of many cases of tuberculosis but also have afforded the public a greater degree of protection. The value of case finding is limited only by inadequate facilities for treatment.

TRANSFUSIONS AND INTRAVENOUS FLUIDS

The free use of blood transfusions before, during, and following operative procedures has greatly reduced the operative mortality. If a sufficient amount of blood is not available, one has access to unlimited amounts of plasma. The method of giving transfusions has improved. Nowadays, the citrated method is used almost exclusively. Special types of bottles, tubes, cellulose material and special methods of sterilization of the equipment, etc., have been developed in the last few years which facilitate blood transfusions and intravenous therapy. By improved methods of sterilization, the pyrogens have been eliminated almost completely as a factor in producing transfusion reactions. Studies in hematology, such as the various types and subtypes of blood, and the determination of the Rh factor, have reduced to a minimum the number of transfusion reactions and deaths. The intravenous use of saline, glucose, amigen, etc., aids in the maintenance of tissue-fluid-protein balance.

PHYSIOLOGY AND ANESTHESIOLOGY

Progress in surgery of the thorax was retarded for many years because of our lack of knowledge of the physiological principles which are peculiar to the respiratory system. It has required years of research, experimental work, and diligent study by physiologists to acquire even our present working knowledge. Many problems are still untouched and many others are poorly understood. It is probably safe to say that the advances in physiology and anesthesiology are among the greatest factors responsible for the progress of surgery.

Anesthesiology is now considered a field of specialty by the American Board of Specialists. In order to become a member of the Board of Anesthesiology, one must be not only a physician, but also must have had sufficient training to familiarize himself thoroughly with all methods of anesthesia, the various anesthetic agents, and must have a basic knowledge of physiology of the respiratory system. Surgeons have access not

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only to trained anesthetists but also to refined and purified anesthetic agents. Among the inhalation anesthetics are ether, nitrous oxide-oxygen, cyclopropane and ethylene. Ether is used frequently, together with nitrous oxide-oxygen, to permit a higher concentration of oxygen and better relaxation of the patient. Intravenous barbiturates, avertin given rectally, and paravertebral nerve block with local infiltration of procain also have their field of usefulness. The method of administration of anesthesia has been greatly improved. Tightly fitting masks for the so-called "closed system" of anesthesia and improved anesthetic machines, whereby one or more anesthetic agents may be used at the same time, have increased the safety of anesthesia. The use of an endotracheal tube is of great value. It affords ease of administration, control of respirations, permits inflation or deflation of the lung as desired and facilitates aspiration of pulmonary secretions. If secretions are present, the endotracheal tube is imperative because postoperative atelectasis is prevented by aspiration of the secretions and maintenance of a clear airway.

BRONCHOSCOPY

The bronchoscope was designed originally for the removal of foreign bodies from the air passages, but its field of usefulness has broadened with years of experience so that now the purpose for which it was designed originally constitutes no more than ten per cent of its use. Its greatest field of usefulness now is for diagnostic purposes. Bronchoscopy does have limitations. The bronchoscope is a rigid instrument and the structures through which it is passed are small. Therefore, of necessity, the instrument must be small. Although the bronchoscope will visualize clearly the larger bronchi, it cannot be passed into the small bronchi. Neither can it be passed around a curve into bronchi that branch off from the stem. This means that the greater part of the tracheobronchial tree is outside of the field of bronchoscopic vision.

For visualization of the bronchial pattern and for demonstration of bronchial stenosis, bronchial obstruction or even bronchial ulceration outside the field of bronchoscopic vision, iodized oil is used. After the introduction of the iodized oil, x-rays are made and these films are designated as bronchograms. This type of study frequently affords tremendous preoperative information as to the diagnosis or differential diagnosis. Bronchoscopy frequently aids in formulating the regime for therapy by showing the various types of bronchial tuberculosis. Stenosis or obstruction of the larger bronchi are readily seen with the bronchoscope. With biopsy forceps a small piece of tissue can be removed through the bronchoscope to ascertain the significance of the obstruction or tumor mass.

Postoperatively, patients may develop atelectasis, collapse of a lung or a lobe of a lung, or they may have difficulty in raising the secretions through a narrowed or stenosed bronchus. Bronchoscopic aspirations of these secretions, with removal of a thick plug of mucus from an obstructed bronchus, give immediate and dramatic relief. Bronchoscopic examination frequently reveals bronchial tuberculosis as a source of positive sputum. In other instances, secretions may be aspirated separately from one or more lobes of a collapsed lung, and thus one is able to ascertain the source of the positive sputum. Bronchoscopic dilatation may be done for a stenosed bronchus to aid (1) in drainage of pent-up secretions and (2) to maintain patency of the bronchus until the parenchymal disease is controlled by thoracoplasty. Bronchoscopy, together with the aid of a bronchogram, is useful in the diagnosis of tuberculous bronchiectasis or in bronchiectasis which follows tuberculosis.

RADIOGRAPHY

It would be impossible to do thoracic surgery without good radiography. The machines for radiography are better than in previous years. The high voltage and other technical factors permit much shorter exposures, with elimination of motion. The quality of x-ray films is better. Of great value are the improvements in the technique of taking different projections, such as oblique and lateral, with special changes which vary from the standard positions. Included in the latter are inspiratory and expiratory films, apical details and other methods to visualize more accurately the apex of the lung fields, an area behind a rib or behind the cardiac silhouette. The techniques of overpenetration, such as the Potter-Bucky and the planigram, aid in the demonstration of the cavity or cavities within a consolidated or fibrosed area.

The last but by no means the least significant of the various factors which form the background for the progress of thoracic surgery in tuberculosis is the spirit of cooperation between the clinician, the surgeon and the radiologist. It is a recognized fact by the phthisiologist that there are very few cases of tuberculosis which are strictly medical. The surgeon realizes that there are very few if any cases of pulmonary tuberculosis which are strictly surgical. Physicians have learned that this is not a field of competition and that there is no room for petty jealousy; con-

sequently there is a better spirit of cooperation. Fifteen years ago, a relatively few surgeons were trained sufficiently to do all types of thoracic surgery. Now there are skilled thoracic surgeons throughout the country who are capable of performing whatever procedure is indicated. Years ago, when a half dozen or so ribs were removed at one operation, the mortality rate was prohibitive for thoracoplasty except in the better cases. Now, with increased experience and better surgical judgment, many of the more serious cases are operated upon successfully. All recognized sanatoria and general hospitals which have an active department of thoracic surgery have regular conferences at which various patients are discussed. This gives the patient the benefit of medical and surgical consultation.

SURGERY

Limitation of time and space in this presentation does not permit a complete discussion of all the surgical procedures used, including their indications and contraindications. I shall therefore limit this discussion to the more commonly used procedures, the end results of which, with the possible exception of excisional surgery, are well known and proved.

There are a great many types of surgery used in the management of pulmonary tuberculosis. However, there is no form of surgery nor other therapy which can serve as a substitute for bed rest. All patients should be reviewed in conferences to determine (1) if any kind of surgery is indicated and if so, (2) what type of surgery is best for the patient at this particular time. The best results will be obtained in the management of pulmonary tuberculosis by having no set rule or regime by which all patients are treated. Any given operation may be used singly or in combination with other procedures for the same patient at different times. We must not permit the treatment of a disease to be worse than the disease itself! Threfore, it is a good idea to try the more simple procedures first, provided they give a reasonable chance of benefit. This does not imply that simple procedures should be used first in every case, because some patients necessitate radical surgery in the beginning and it is useless to lose time in order to prove that a more simple procedure will not be effective. Some patients, even with the far advanced type, respond well to bed rest only.

INTERRUPTION OF THE PHRENIC NERVE

Only about twelve or fourteen years ago, it was customary to do an avulsion of the phrenic nerve, thus producing a permanent paralysis of the diaphragm. Now, with the increased knowledge of anatomy and more highly developed skill, it is routine to do a temporary interruption of the phrenic nerve, producing paralysis of the diaphragm for from four to eight months, with an average of about six months. During this time the patient is kept under close observation and his clinical response is estimated. The procedure is very effective in controlling hemoptyses due to pulmonary tuberculosis. About 65 per cent of tuberculous cavities of 2 centimeters or less in diameter and 36 per cent of cavities from 2 to 4 centimeters in diameter will heal under the effect of an interruption of the phrenic nerve. If the lesion is not controlled with this operation, it does not prevent some other form of collapse. A thoracoplasty, for example, may be done at a later date after the diaphragm has resumed its function. Some patients who have had permanent interruption of the phrenic nerve have become so dyspneic as to preclude further surgery necessary to control the lesion. It is my opinion, therefore, that a temporary, rather than a permanent, interruption of the phrenic nerve is preferable as the diaphragm regains its function and if results are unfavorable, another type of surgery may be done with greater safety.

PNEUMOTHORAX

Although a pneumothorax is considered a safe and minor procedure, it is not altogether without potential danger. Studies made by Drs. Salkin and Cadden of Hopemont Sanitarium showed complications in about 20 per cent of the cases in which pneumothorax was used. This does not indicate that pneumothorax should not be used, but that complications, many of which are of serious significance, must be kept in mind. The percentage of complications is much higher in the unsatisfactory pneumothorax than in the satisfactory one. If a pneumothorax is not satisfactory, it must be converted into a good one within a short period of time or be abandoned and some other type of therapy instituted.

PNEUMONOLYSIS

For descriptive purposes, pneumonolyses may be divided into three groups (1) intrapleural, (2) extrapleural and (3) combined extra-intrapleural pneumonolyses. We are fairly well agreed upon the indications and contraindications for each procedure.

(1) Intrapleural pneumonolysis is further divided into two types (a) closed and (b) open.

(a) The closed intrapleural pneumonolysis under local anesthesia is performed with an instrument known as a thoracoscope. When a pneumothorax is ineffective because of thin, small

adhesions holding out the lung and preventing closure of the tuberculous cavity, a closed intrapleural pneumonolysis is done and the adhesions are divided. This permits the lung to collapse with resultant closure of the cavity.

(b) If, for any reason, the adhesions are too short, too large, or very vascular, which precludes dividing them by the closed method described above, the thorax may be opened surgically and the adhesions separated or divided under direct vision. This procedure is called an open intrapleural pneumonolysis.

(2) Extrapleural pneumonolysis is also divided into two types (a) extrapleural pneumonolysis with paraffin plombage, and (b) extrapleural pneumonolysis for the purpose of creating and maintaining an extrapleural pneumothorax. These procedures are indicated only for patients who have not responded to bed rest or interruption of the phrenic nerve, and for whom a satisfactory pneumothorax cannot be given. With rare exceptions these operations should not be performed unless a permanent form of collapse is contraindicated.

(a) Extrapleural pneumonolysis with paraffin plombage has a definite field of usefulness. It should be used only for patients whose tuberculosis is limited to the apex and whose cavity is 2 centimeters or less in diameter. Personally, I believe it should not be used with a 2 centimeter cavity if the walls of the cavity are thick and fibrous. The operation may be performed either with local or general anesthesia. A curved incision is made about six inches in length between the vertebral border of the scapula and the spine. The muscles are divided and a segment, four or five centimeters in length, usually of the fourth rib, is resected subperiosteally. A cleavage plane of the endothoracic fascia is found through the anterior periosteal bed. By gentle dissection the parietal pleura and the apex of the lung are dissected free from the chest wall, thus creating a space between the parietal pleura and the chest wall. A sufficient amount of paraffin is inserted to fill the surgically created space. This paraffin plombage or pack maintains the apex of the lung in a collapsed position. When this procedure is used on carefully selected patients, the results are good and it has the advantage of conserving lung tissue and of not producing structural deformity of the chest.

(b) Extrapleural pneumonolysis for the creation of an extrapleural pneumothorax may be done under local or general anesthesia. An incision is made along the vertebral border of the scapula and a segment of one rib is removed subperiosteally. If it is necessary to free the lung as far down as the eighth or ninth rib, it is desirable to remove a segment of the fifth rib. The extrapleural space is created in the same manner as described in (a) and the lung together with the parietal pleura is gently dissected free from the chest wall and is carried as far down as necessary to control the disease. The wound is then closed and the space thus created is maintained as an extrapleural pneumothorax. This procedure should not be used if the dissection is difficult, nor should it be used unless a permanent form of collapse such as thoracoplasty is contraindicated.

(3) Combined extra-intrapleural pneumonolysis. This is an operative procedure used for patients who have the usual, conventional type of intrapleural pneumothorax at the base but whose apex is bound by adhesions which cannot be divided by an intrapleural pneumonolysis. In reality, the apex of the lung is completely fused to the chest wall and does not contain true adhesions. The operation is done either with local or general anesthesia through an incision along the posterior border of the scapula. A segment of one rib is removed and by careful dissection the apex of the adherent lung is dissected free, as described in the other forms of extrapleural pneumonolysis. Therefore, this creates an apical extrapleural pneumothorax. The parietal pleura is then divided around the adherent area of the lung, converting the extrapleural apical pneumothorax and the intrapleural pneumothorax into one pocket. Collapse is then maintained by the usual pneumothorax. With the exception of certain selected cases, this procedure should not be used except in bilateral disease or when a permanent collapse is contraindicated.

PNEUMOPERITONEUM

This procedure of introducing air into the peritoneal cavity is used almost exclusively by clinicians so I have had very little experience with it. Some patients with bilateral, far-advanced pulmonary tuberculosis, who are considered unfavorable for collapse therapy and patients with bilateral cavitation with hemoptysis, in whom it is impossible to ascertain the source of hemorrhage, have responded well to pneumoperitoneum. Control of the danger symptoms with pneumoperitoneum frequently produces such improvement that subsequently a more curative form of therapy may be instituted.

THORACOPLASTY

A thoracoplasty, consisting of several separately staged operations, collapses the lung by removing a sufficient number of ribs to close the cavity and convert the sputum. Many patients are poor operative risks. It is therefore imperative that the operations be spaced carefully and no more than three ribs removed at one stage. For patients in poor condition only two or perhaps two and a half ribs are removed at one operation. With few exceptions, a thoracoplasty should be done only when other more simple procedures have failed. Occasionally, however, a thoracoplasty is done without attempting other forms of collapse. One cannot always tell in advance how many ribs it is necessary to remove nor how many operations will be required. The number of ribs removed and the number of operations performed varies with the extent of the disease, the difficulty in closure of the cavity or cavities and the ability of the patient to tolerate surgery. In this connection, I am sure you will be delighted to know that in your own state sanitarium, in Hopemont, West Virginia, up to January, 1946 seventy-eight patients had this particular type of operation. A total of 234 operations were done on these patients. Seventy-three of the seventy-eight patients, or a total of 93.5 per cent, now have closed cavities and negative sputum. There has been only one operative death in this series, a patient mortality rate of 1.3 per cent, or an operative mortality of less than 0.5 per cent.

PULMONARY RESECTION

This consists of removal of an entire lung, one or two lobes of a lung, or a segment of one lobe. This group of operations is designated as excisional surgery. All these procedures demand painstaking anatomical dissection in order to obtain the best results. At present, the indications and contraindications for excisional surgery in pulmonary tuberculosis have not been definitely established. It is contraindicated in bilateral tuberculosis except in rare instances in which the disease in the better lung is limited to an extremely small area and can be controlled easily without encroachment upon the respiratory reserve. In a certain percentage of patients the cavity remains open despite all forms of treatment. For example, we know that a cavity in the lower lobe of a lung is notoriously difficult to close with a thoracoplasty. Some blocked or tension cavities or some of the thick-walled cavities following thoracoplasty shift toward the mediastinum and do not close. This is true occasionally with even the most complete anatomical collapse. Some patients who have had a thoracoplasty plus a revision thoracoplasty still have a residual cavity and positive sputum. Surgical drainage of these residual cavities has not been uniformly favorable.

Bronchial tuberculosis may lead to complete stenosis of the bronchus, usually with bronchiestasis, and the sputum remains positive from time to time even after a complete thoracoplasty has been done. Occasionally, patients develop complete atelectasis of a lobe due to bronchial obstruction of tuberculous origin and periodically have positive sputum. It is not rare to see a large fibrocaseous nodule in the lung field which will produce toxic symptoms, such as an elevated temperature, increased pulse rate, chronic cough and loss of weight. There may or may not be a surrounding zone of recent activation. Several of these patients have been observed for as long as nine years before having a resection which resulted in apparent cure. These, together with other experiences, have opened a rather narrow but useful field for excisional surgery. Although each case is highly individualized and the type of surgery varies accordingly, the indications for excisional surgery as used by the author are as follows: (1) failure of thoracoplasty to close the cavity and convert the sputum (Case 1), (2) consolidated lung with or without multiple cavities (Case II), (3) fibrocaseous nodules observed over a long period of time which have failed to respond to collapse therapy and have intermittently positive sputum or for which resection is believed to be the procedure of choice (Case III), (4) large, thick-walled cavity in the base, with or without bronchiectasis, which has resisted other forms of collapse, and (5) completely atelectatic lobe due to bronchial stenosis of tuberculosis origin, usually with positive sputum, or in which there is no radiological evidence of healing (Case IV) and (6) large lower lobe cavity with atelectasis and bronchiectasis.

The indications and contraindications for excisional surgery vary with different surgeons. The long-term follow-up end results of a relatively large number of patients on whom resections have been done are not as good as the immediate postoperative results would seem to indicate. One must realize that pulmonary tuberculosis is a systematic rather than a localized disease. Many authorities doubt that there is such a thing as strictly unilateral pulmonary tuberculosis. We know for a fact that frequently when a lung or a lobe has been removed and sectioned, areas of tuberculosis are

found which were not demonstrable preoperatively by x-ray. For this reason I do not feel excisional surgery should be used in any case of pulmonary tuberculosis if some form of collapse offers a reasonable chance of cure.

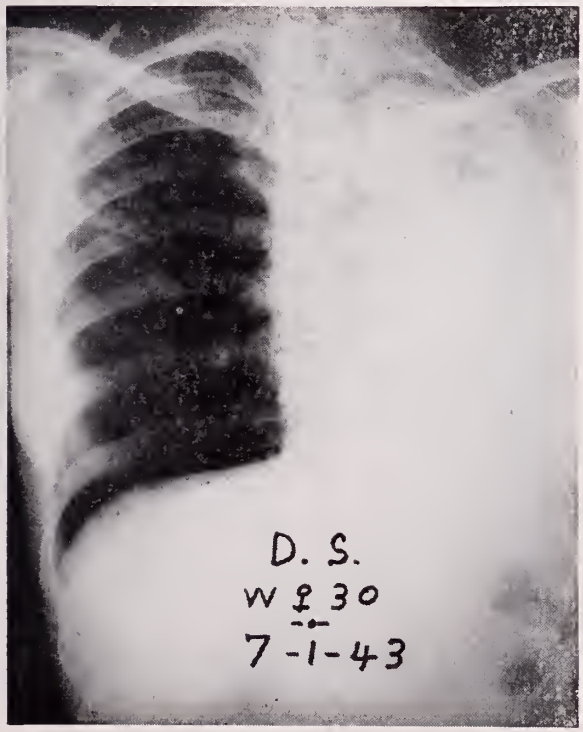
Although the use of penicillin and sulfonamides has reduced the empyema and infection in excisional surgery and improvement in surgical technique has reduced to a minimum the incidence of post-operative opening of the bronchial stump, we still fear contralateral spread and reactivation of lesions which, preoperatively, were believed to be healed and insignificant. At the present, the use of streptomycin in pulmonary tuberculosis has not been very encouraging. Whether or not subsequent studies will discover a drug which will prevent spread or reactivation of apparently healed lesions remains to be seen.

CASE REPORTS

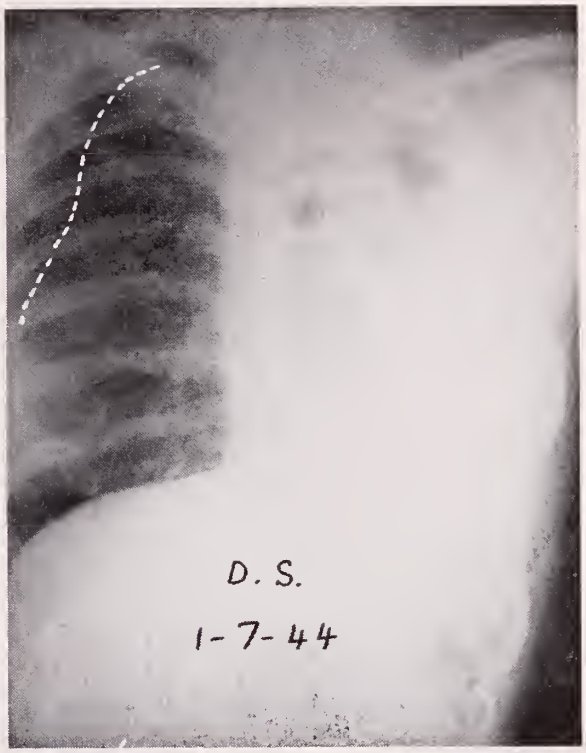
Case I. D. S., white, female, age 30.

History: Sudden massive hemoptysis. No previous illness and no history of contact with tuberculosis.

(a) X-ray July 1, 1943 showed massive atelectasis and consolidation with large cavity and several small cavities in left lung. Heart and trachea drawn to left side. Right side had a soft exudative lesion in second and third anterior interspaces.



CASE I. (A)



CASE I. (B)

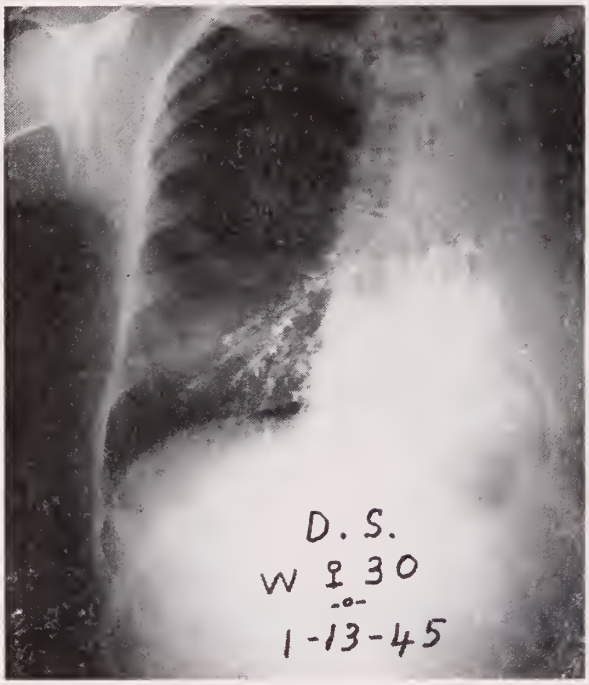
All sputum examinations showed numerous tubercle bacilli. Bronchscopic examination showed extensive bilateral bronchial tuberculosis with numerous papillomatous formations. Patient was considered unfavorable for collapse therapy and bed rest was advised.

(b) X-ray January 7, 1944. Lesion controlled in right lung with pneumothorax. No dyspnea. Bronchoscopy revealed marked improvement in bronchial tuberculosis of right stem bronchus and slight improvement of the left stem bronchus. Thoracoplasty for control of disease in left lung was performed.

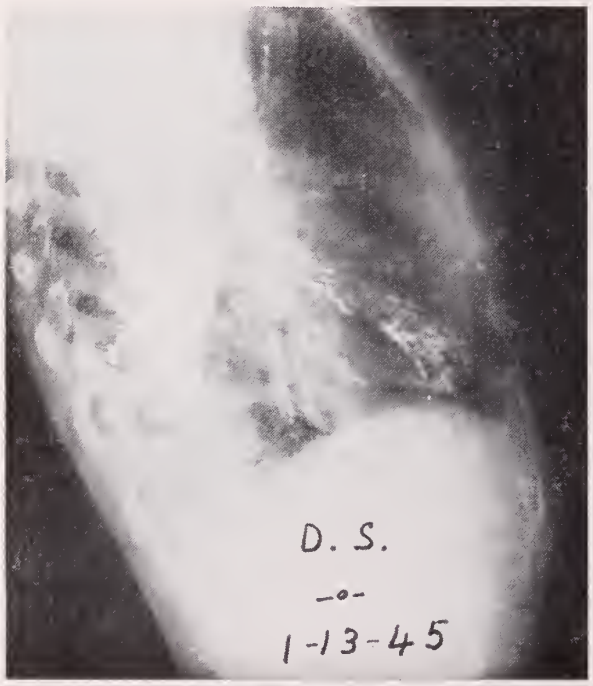
(c), (d) X-rays on January 13, 1945 with iodized oil showed extensive bronchiectasis of left lower lobe. Bronchoscopy one week before showed both stem bronchi to be clear. No secretions were found in the right side. Mucoid secretions from left upper lobe revealed tubercle bacilli. No tubercle bacilli were found in the purulent secretions obtained from the bronchiectatic left lower lobe. The upper eight ribs on left side had been removed by a three-stage thoracoplasty. Figure C shows right pneumothorax. Planigrams and overexposed x-rays had failed to reveal definite cavity in

left lung. A suspicious area just beneath left clavicle close to the spine (see arrow in C) was believed to be a cavity and to represent the source of positive sputum. Left pneumonectomy was advised. Continuation of right pneumothorax was also advised.

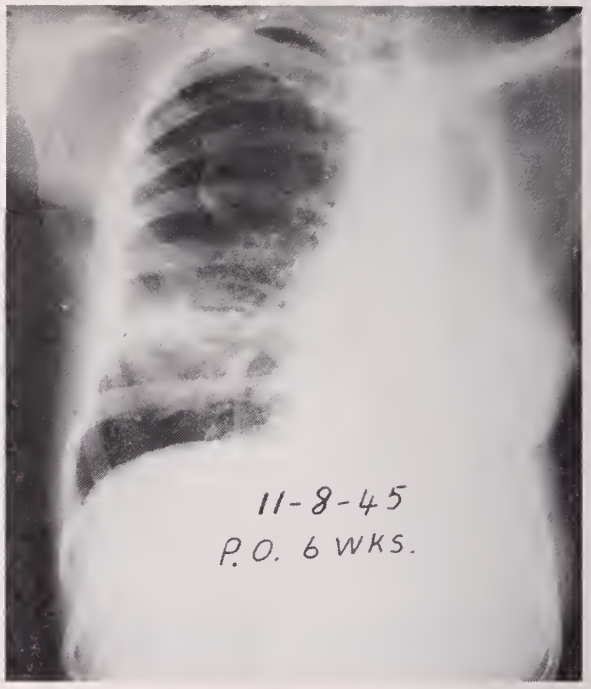
(e) X-ray on November 8, 1945, six weeks after left lung was removed. Note pneumothorax in right side. The infiltration in lower right lung field occurred postoperatively. This is not an infrequent occurrence. It may be due to aspiration of material during the operation.



CASE I. (C)



CASE I. (D)



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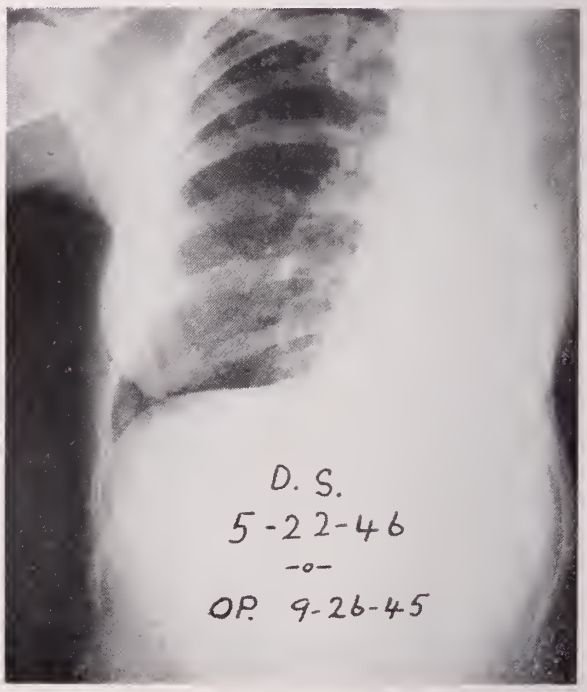


CASE I. (F)

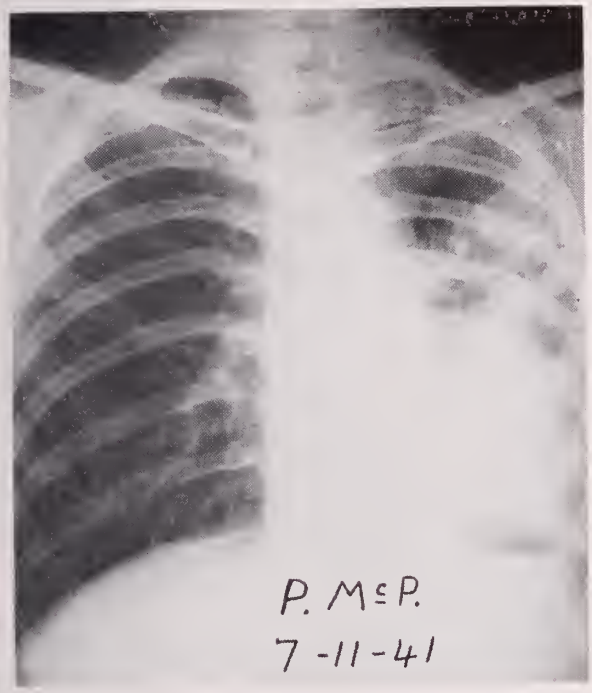
(f) X-ray on May 22, 1946, seven months after left pneumonectomy. The infiltration in right lung has cleared. The right pneumo-

thorax is being abandoned. Patient has no cough nor sputum. Gastric washings have remained consistently negative for tubercle bacilli.

Case II. P. McP., white, male, age 29.

History: Had a bad cold with persistent cough.

(a) X-ray July 11, 1941, shows extensive pulmonary tuberculosis of left lung with consolidation and atelectasis of left lower lobe. The right lung is apparently clear. He was admitted to sanatorium. Pneumothorax was attempted but was unsuccessful. Sputum was persistently positive for tubercle bacilli.



CASE II. (A)

CASE II. (B)

(b) X-ray September 29, 1942 shows pneumoperitoneum and extensive spread to the right side.

(c) X-ray September 17, 1943, shows pneumoperitoneum to have been abandoned. Bronchoscopy, May, 1944, showed no active bronchial tuberculosis. No secretions were found in the right side. Secretions from left lung were positive for tubercle bacilli. Planigrams and bronchogram showed consolidated left lower lobe with atelectasis and bronchiectasis. X-ray also showed active pulmonary tuberculosis in the left apex. The disease in the right lung was apparently under control. Left pneumonectomy was advised.

(d) X-ray July 30, 1946, twenty-five months after removal of left lung, shows the usual restitutional changes in the left side. The right pneumothorax is being abandoned. There is no cough nor sputum. Cultured gastric washings do not show tubercle bacilli. The patient feels well and has returned to work.

Case III. E. H., white, female, age 21.

History: Patient had no symptoms. She was found in a government survey. Sputum was positive periodically.

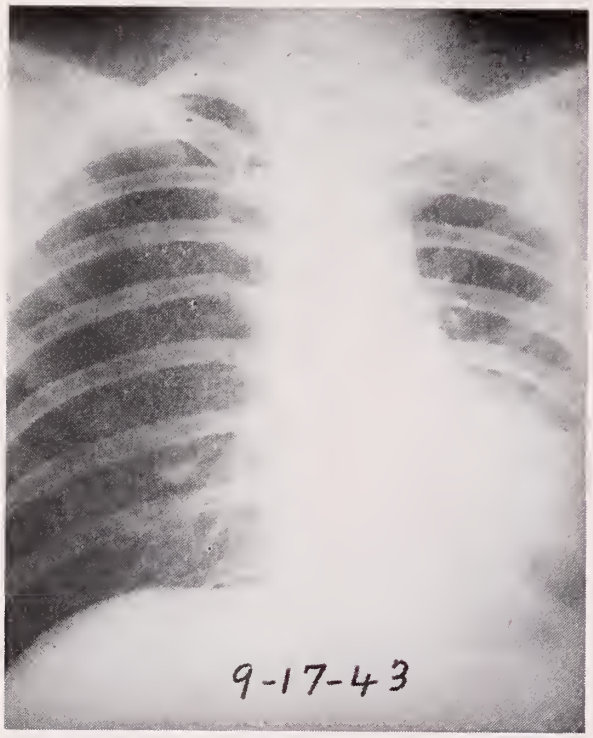
(a) X-ray May 6, 1943, showed large fibrocaseous nodule in right second interspace. Lateral x-ray showed this nodule to be located in the lower part of the upper lobe. Bed rest was advised. Pneumothorax was attempted but was unsuccessful. Temporary interruption of the right phrenic nerve was performed.

(b) X-ray May 2, 1945, showed extension of the disease. Resection as an elective proedure was advised because (1) disease was progressive, (2) apparently localized focus of tuberculosis located in lower part of upper lobe, (3) extremely thick fibrous wall making it more difficult to control with thoracoplasty.

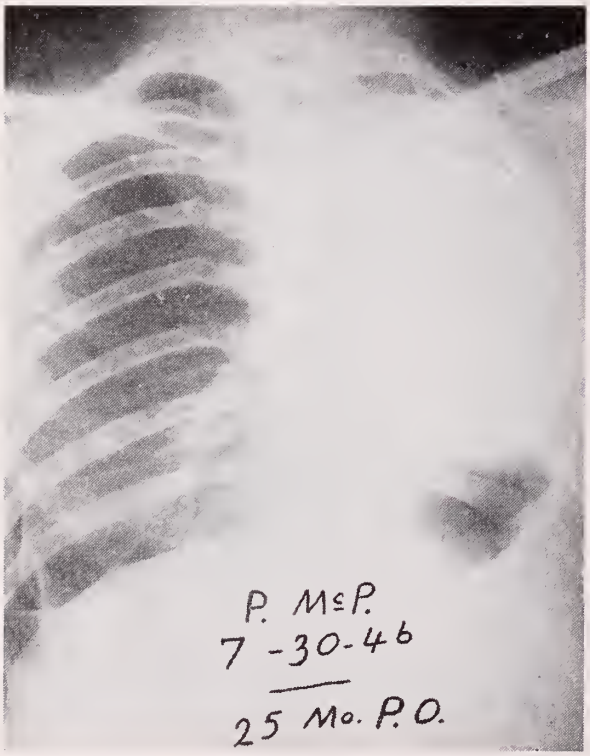
(c) X-ray May 21, 1946, one year after lobectomy, shows only slight thickening of apical pleura on the right. The lung fields

are clear. Sputum and gastric washings have remained negative on smears and cultures.

Case IV. C. M., white, female, age 38.



CASE II. (C)



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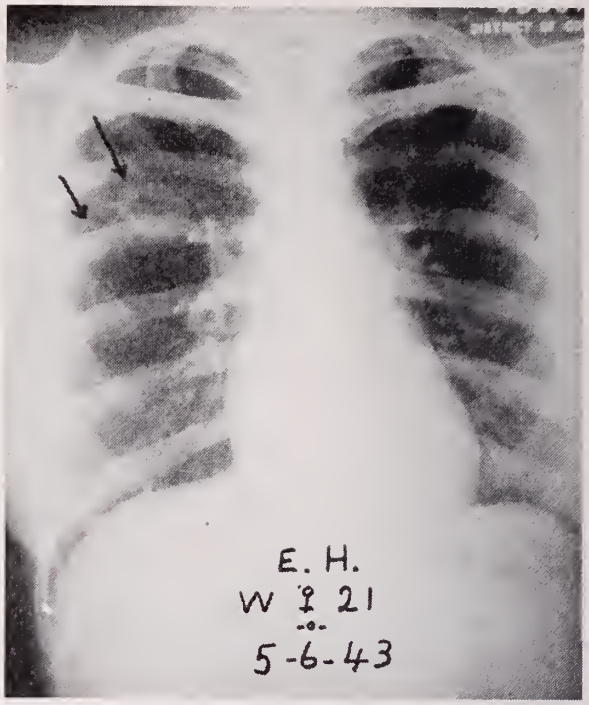
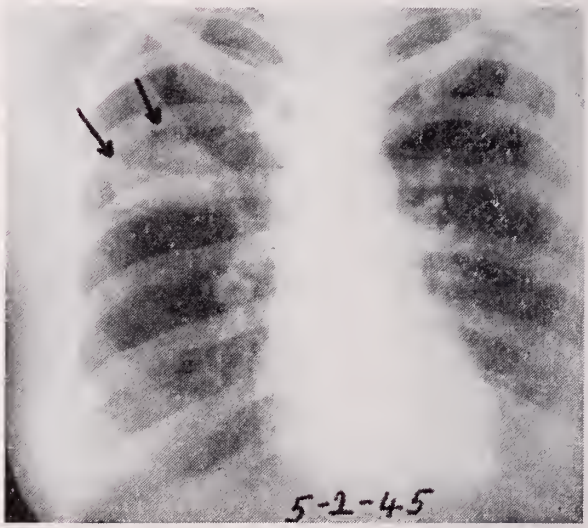


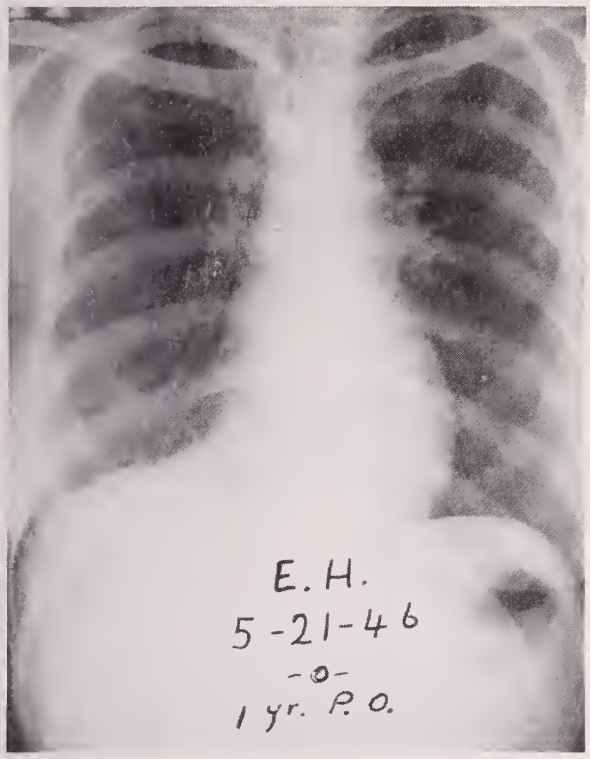
CASE III. (A)



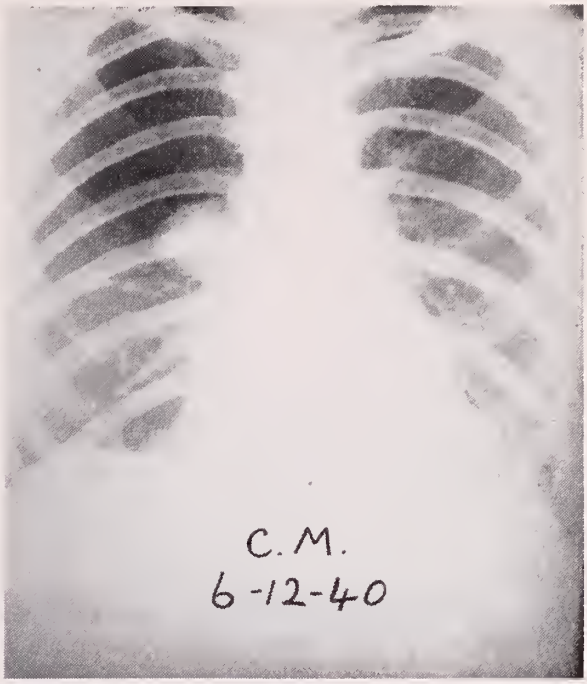
CASE III. (B)

History: Had far advanced pulmonary tuberculosis of right lung with positive sputum in August, 1939. Effective pneumothorax induced. Adhesions were severed in October, 1939. Pneumothorax with selective collapse maintained four years and abandoned in 1943. Patient remained well. Frequent x-rays showed no evidence of activity after expansion of lung. In February, 1946, developed cold and had positive sputum. The sputum has been positive repeatedly since. There has been a moderate amount of cough, raising about 1 teaspoonful of sputum daily.

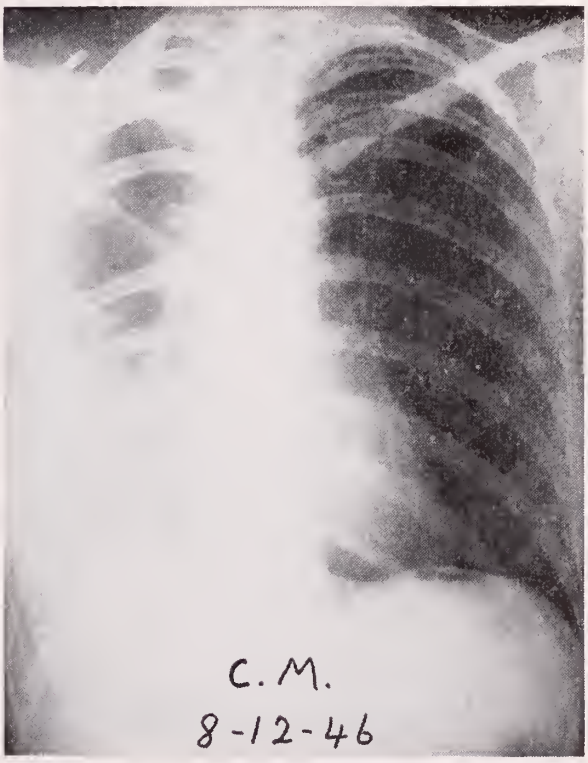
(a) X-ray April 18, 1946, when compared with old x-rays during and since 1944 showed no change. The source of positive sputum was not known. Bronchoscopy showed a stenosed and almost obstructed right upper



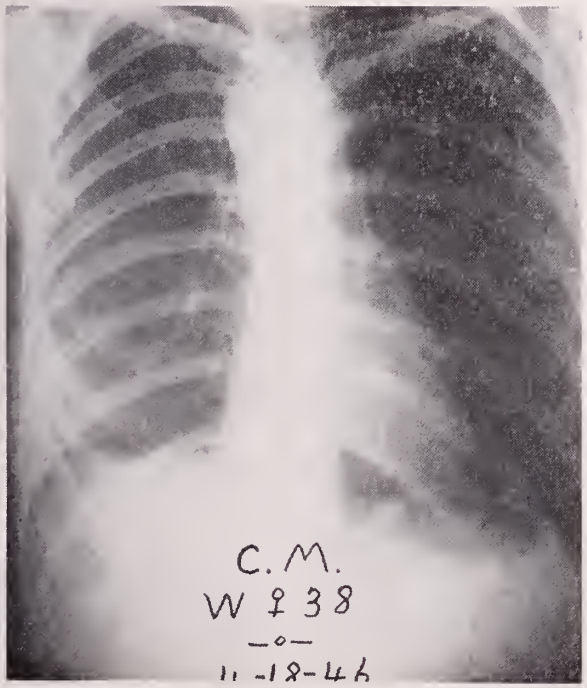
CASE III. (C)



CASE IV (B)



CASE IV. (C)



CASE IV. (A)

lobe bronchus through which was expelled upon coughing a plug of thick cheesy material. This material was laden with tubercle bacilli. Bronchogram confirmed bronchoscopic diagnosis of partial occlu-

sion of right upper lobe bronchus. Planigrams and over-exposed x-rays failed to reveal a cavity. The atelectatic right upper lobe was erroneously interpreted as being the right side of the aortic knob. The true significance of this was ascertained later only by additional studies.

(b) The old x-rays were obtained and it was then obvious that the small contracted atelectatic right upper lobe as seen in x-ray of June 12, 1940, had never expanded. As the middle and lower lobe expanded to fill the hemithorax the atelectatic upper lobe assumed a position next to the mediastinum at the level of the aorta. This was the source of positive sputum. Note the small deposits of calcium in this contracted lobe.

(c) X-ray August 12, 1946, one month after removal of right upper lobe. Cough and sputum have disappeared completely. Note: X-ray November 11, 1946, four months after operation, shows perfectly clear lung fields.

REST TREATMENT

At the end of the last century the rest cure as outlined by Weir-Mitchell became widely accepted in the therapy of the mentally ill. He advocated complete rest in bed with adequate nutrition in the form of frequent feedings, and massage and electricity were usually included in the total treatment. The factors of weight, fat and blood were thought by Weir-Mitchell to be of unusual importance for recovery. The influence of Weir-Mitchell's personality on his patients was perhaps a primary factor in the success of this treatment, since many other physicians have failed to get similar results. The treatment has lost most of its popularity as the dynamics of mental illness have become more clear. We now know that fatigue due to emotional tension or conflict is not cured by rest and that rest may even exaggerate the symptom.

Many physicians now advocate as little rest in bed as possible except for the purpose of normal sleep, and such recommendations include the period of post-medical or postoperative recovery. Overwork as a cause of mental illness has been extremely exaggerated and actually but few illnesses can be attributed to this cause. It is still used in rationalization very frequently by both patients and relatives but actually is a common misconception concerning mental illness.

The main indication for rest treatment is in the case of a patient who is extremely excited, restless, overactive and exhilarated, who feels no fatigue and therefore is in danger of physical exhaustion. Such rest is usually best provided through sedative hydrotherapy or chemical sedation.—Addison M. Duval, M. D., in Medical Annals of the District of Columbia.

TUBERCULOSIS ABSTRACTS*

THE IMPORTANCE OF POSTSANATORIUM CARE OF THE TUBERCULOUS

One of the great dangers to the individual with tuberculosis is that the disease may advance considerably without the patient's being aware of it. For this reason it is essential that the pulmonary condition be observed periodically by means of properly taken X-ray films.

The education of the patient is one of the principal aims of sanatorium care. The knowledge of the disease, the reasons for making adjustments in living, working and in environment, the patient's part in recovery and its maintenance, all furnish the background for his care after leaving the sanatorium. Even after discharge, his disease is still a serious potential danger to himself and to his associates.

Early in sanatorium treatment, if it is possible, it must be determined to what extent the patient will be able to return to his former work and life. If he cannot assume the so-called "normal life," efforts should be made to fit him for work suitable to his condition. Recreational therapy, occupational therapy, rehabilitation and the establishment of work tolerance should go hand in hand with the general treatment. Ideally the sanatorium should conduct its physically able patients through all the stages of rehabilitation until a work tolerance of eight hours has been reached. Others should be brought to their maximum work tolerance and be put on part-time work.

The two most satsifactory guides for determining the patient's condition are the X-ray film and the patient's temperature. Of these, serial X-ray films tell us more completely the dynamic state of the disease. When the X-ray films show marked changes for better or worse, the disease is active, retrogressively or progressively, and rest in bed is indicated. Such is the case, too, when elevation of temperature not due to other causes is present or there is loss of weight, loss of appetite, or fatigue. To determine the status of the disease, the patient should take his temperature and pulse at about 4:00 p.m. and 8:00 p.m., and keep a record of it as well as of any toxic symptoms. At least once in six weeks he should have an X-ray examination of his chest. In old chronic disease the interval may be lengthened. With such a record

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the physician is in a position to judge the reaction of the patient to his disease and to modify treatment as needed.

Each patient is an individual and requires individual treatment. As a general rule, after the X-ray films have revealed a practically stationary lesion for several months, and there are no toxic symptoms, the patient may become partly ambulatory. Attention should be paid to the state of his nutrition, and he should avoid overheated stuffy rooms at all times.

Life in a sanatorium is much less exacting than life at home. To have attained an arrest of the disease in the sanatorium does not mean that the arrest will continue under adverse environmental and nutritional conditions outside.

Essentially, tuberculosis is a chronic disease; in such a disease education in how to live with it and remain well is of extreme importance. Continuous readjustments should be made by a physician who knows the picture as a whole. To be successful, the treatment of tuberculosis must go on long after discharge from the sanatorium.

What the sanatorium does or can do for a patient is briefly outlined because postsanatorium care and complete rehabilitation are but an extension of the sanatorium activities. Vigilance should be the keynote of this extended period, vigilance on the part of the patient and on the part of his physician.

One can give no fixed procedure for subsequent observations of the discharged sanatorium patient. For those whose disease is arrested an X-ray examination every six months for two years probably would be sufficient, providing the patient feels well and has no symptoms. Those discharged as apparently arrested probably should have X-ray examinations every three months for one year and after that at longer intervals if all goes well. At the time the X-ray examination is made there should be a consultation with the tuberculosis physician during which advisable adjustments in the routine of the patient may be recommended.

For many years the Trudeau Sanatorium has made an effort to find out what happens to its discharged patients. Once each year, in the anniversary month of his discharge, the patient is sent a blank to fill in. In addition to a request for notice of change in address the patient is asked about his health in detail, his work and his earning capacity. This inquiry reminds the patient of the importance of a check-up of his condition. Replies are received from about 90% of former patients.

In this institution the sanatorium staff is always glad to advise the patient when requested and they welcome opportunities to coperate with outside physicians. The staff gladly examines the patient's chest films at the request of his physician and he is told that he may return to the sanatorium at any time for a check-up. Such a check-up affords an opportunity for the attending physician to utilize the specialized services of the sanatorium staff which is more important if he is not specially trained in tuberculosis. It is the essence of teamwork that the physician attending the patient be kept fully informed about the findings and recommendations of the sanatorium staff.

The treatment of tuberculosis should be carried on over many years, even if there has been an apparent restoration of health. A knowledge of tuberculosis and its many and varied behaviors is needed by him who would carry out such treatment with skill. It must be recognized that in all cases the X-ray gives the most accurate estimate of what is going on in the lungs. The sanatorium lays the preliminary groundwork in education and provides satisfactory environmental and nutritional standards, but the treatment must go on long after the patient has been discharged. Prevention of relapse is of greater importance than treatment after relapse has occurred.

The Importance of Postsanatorium Care of the Tuberculosis, Fred H. Heise, M. D., American Review of Tuberculosis, October-November, 1946.

LONGEVITY OF DIABETIC PATIENTS

As against the steady increase in the diabetes death rate in the general population, there is the striking paradox that diabetic patients, particularly since the introduction of insulin, have shown steady gains in longevity and that this has been associated with improvement in their general health and working capacity. The diabetic child of two generations ago could look forward to but a year or two of severely restricted life. Today, the expectation of life of the average diabetic child aged ten is estimated at forty years. Similar, though smaller, gains have been recorded among diabetic patients at other periods of life. Naturally, the gain is progressively smaller with increasing age. It is thus clear that the increase in mortality from diabetes in the general population can be explained only by a large and steady increase in the number of known diabetic patients.

It is significant, furthermore, that life-table analysis of the causes of death among diabetic patients shows a reduction in the rates of death from most causes, especially those that reflect the degree of control of the diabetes. Thus, the rate of death from coma has declined progressively and rapidly. Cancer is the only important cause of death to show some increase, and this is not unexpected in view of the similar trend in the general population and the increased longevity of diabetic patients.—Herbert H. Marks in New England Journal of Medicine.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

The President's Page

I approach the presidency of the West Virginia State Medical Association as a great adventure, and with the wholehearted support of the Association's membership such as has been accorded to my worthy predecessors, I feel it will be a pleasure to serve.

If the medical profession is to attain its objective of preserving the practice of medicine as a private enterprise, it must recognize the fact that, in the last analysis, legislation is influenced if not formulated by public opinion, that is, by the man in the street. It behooves us all therefore to familiarize ourselves with the scope and implications of government proposals to socialize medicine and be able and willing to pass on to our patients the dangers and evils of these proposals.

The man in the street is not aware that the clamor for socialized medicine is the expression of an articulate minority. In committee hearings during the last session of Congress on the Wagner-Murray-Dingell bill, for instance, opinions of less than 5 per cent of doctors in the United States who favored the bill were sought rather than the opinions of the more than 95 per cent of doctors who opposed the bill.

The public is also not aware that certain facts and figures used for propaganda purposes do not tell the whole truth. This applies in particular to references to Selective Service. The claim of 5 million rejections for service in the armed forces is made, and President Truman, without any analysis of the cause of these rejections, in a message to Congress on a "National Health Program" pointed with horror to the shocking figures as an indication for the dire need for a compulsory health insurance system. As a matter of fact, the 5 million rejections claimed at the time amounted actually to 4,217,000, or an error to begin with of 16 per cent. More important was the erroneous implication that all of the 4,217,000 rejections were on the basis of a lack of medical care when, in fact, less than 2 million could have had an altered status by medical care or a lack of medical care. It is doubtful if our own experience would have been improved under any other system. In England, for instance, where compulsory insurance has existed for 35 years and where a lower standard of acceptance for service obtained, the rate of rejections was much higher than our own and amounted to 50 per cent.

The proponents of state medicine, in advertising the inadequacy of hospital beds, stress the fact that a large number of counties in the United States have no hospital at all. The picture is misleading since the natural unit is not a county but a trade area. Artificial boundary lines are cited when the important thing is the distance from home to hospital. The fact is ignored that a comprehensive survey in 1938 showed that over 98 per cent of the population of the United States lived within 30 miles of a hospital. Some of the counties referred to as having no hospital are so sparsely settled that they could not support a hospital in any measure. The reformers do not even make the constructive suggestion that, for these thinly populated counties, the public school system be imitated and ambulance service be provided for the sick as bus service is provided for the transportation of school children to centers large enough to support a high school.

Recent events indicate a turn in government definitely to the right, and for some time the clamor for socialized medicine is expected to be in the background. We should not be lulled into complacency, however, and believe that the problem of medical care will solve itself. We must accept the entrance of government into medicine to the extent of paying the cost of care for those people, estimated to be 20 per cent of the population, who are not able to pay the cost themselves, and we must support wholeheartedly a system of voluntary insurance to bring the cost of care within the reach of the other 80 per cent.

W. H. St. Clair

President.

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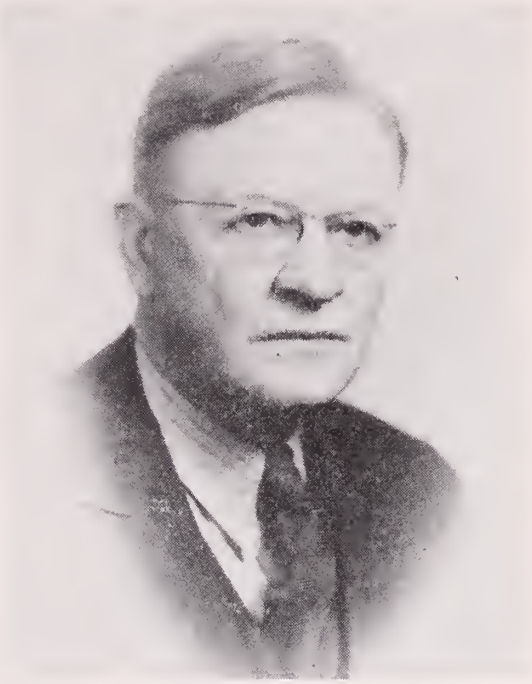

Dr. Wade H. St. Clair

THE NEW PRESIDENT

Dr. Wade H. St. Clair, of Bluefield, takes office January 1, 1947, as the 80th president of the West Virginia State Medical Association. He succeeds Dr. Andrew E. Amick, of Lewisburg, who automatically becomes chairman of the Council.

Doctor Amick worked hard at being president of the State Medical Association. He accepted his responsibilities without question and at all times endeavored conscientiously to discharge his duties to the very best of his ability.

Committees were chosen wisely, and a great deal accomplished, including the adoption of a new workmen's compensation fee schedule, and the inauguration of a large scale veterans care program.

As chairman of the Council, Doctor Amick will have the benefit of invaluable experience gained as president of Kanawha Medical Society, member of the Council, and President of the State Medical Association. There is still much work to be done, and there is no doubt that the new chairman will continue to devote needed time to the job.

Many problems remain to be solved as Doctor St. Clair takes office. The distribution of medical care to all of our citizens is one big problem facing the profession of this state. Months have been spent in trying to devise ways and means to provide hospitalization and medical care for the medically indigent. The answer has not yet been found, but some progress has been made by a sub-committee of the legislative interim committee, and there is every hope to believe that the question will be solved at least in part during the present year.

Doctor St. Clair and the members of the profession generally have the announced support of Governor Meadows in matters pertaining to public health in this state. Full cooperation on the part of the profession, state officials, and members of the legislature should mean the adoption of a public health program more far reaching than any that has ever before been considered.

Doctor St. Clair is outspoken in his views. His ideas are sound, and he has already shown the qualities of leadership needed by a live organization at a time when bureaucrats in our nation's capital are trying to force upon medicine new, untried, and unwanted concepts of practice. Doctor St. Clair takes office with the united support of the members of the State Medical Association, and with their best wishes for a successful term as president.

TUBERCULOSIS PROBLEMS, 1947

It seems a long time since tuberculosis was shown to be an infectious disease; from 1882 when Koch demonstrated the causative organisms; from the time when Biggs propounded the opinion that the way to wipe out tuberculosis was to provide an adequate number of hospital beds; from 1887 when Sir Robert Phillips established the first tuberculosis clinics down to the modern application of collapse therapy and the approach of beneficial chemotherapy. It is significent that tuberculosis has moved down to the 7th place in the list of the causes of death.

Present day problems of tuberculosis roughly fall into four phases: Education, chest surveys, isolation and hospitalization, and rehabilitation.

EDUCATION

Allied tuberculosis agencies have conducted and should continue to conduct active educational campaigns. Expansion in application is essential. The impressionable school age, from grammar school to high school to college, provides an inviting approach to instruction of our youth in the dangers of contact and spread by open cases. Painstaking instruction should be given patients who are candidates for treatment. At the time of diagnosis, proper approach and information will build confidence and pave the way for subsequent cooperation. The family, too, should be informed about the probable duration and the dangers incident to the disease. Their attitude and interest in the patient's possibility of cure influences the acceptance of sanitarium care and reduces the chance of leaving against advice.

Patients should not be told that their stay in the sanitarium will be short; rather it may be long and usually is. One cannot predict, with accuracy, the date of discharge. Not infrequently there comes a strong urge to tell the patient what he wants to hear. This temporarily simplifies matters but in the end accentuates the patient's disappointment and dissatisfaction. Behavior traits of tuberculosis do not permit pleasant promises for the distant and uncertain future.

CHEST SURVEYS

Mass surveys and diagnostic clinics are increasing; these facilitate case finding. Ways and means should be found to support competent premarital tuberculosis surveys, as well as covering all patients and employees in industry, general hospitals, and mental and penal institutions. Here are centered under control a mass of people that by virtue of intimacy are definitely subject to hazards of contact which are not present in the daily routine of home life.

The objectives of the mobile diagnostic clinic are clear; their function should closely harmonize with other existing agencies established and maintained by voluntary groups. Expenditures of effort and money should be channeled where maximum rewards appear in the coverage.

ISOLATION AND HOSPITALIZATION

In the absence of positive prophylactics and without a specific cure, it is necessary to provide a method of enforcing an effective isolation of the recalcitrant open case who refuses to carry out properly the regulations necessary for the protection of others. No control program can be said to function adequately either actively or passively without control of the carrier. Efforts in finding cases and cost of hospitalization are seriously jeopardized by the free and uncontrolled movement of patients. If a patient has been supplied a free bed, it seems reasonable that he should appreciate and share in the responsibility of protecting others if not personally interested in the benefits of cure. This situation becomes increasingly important as more cases are discovered by mass chest surveys.

Within the last five years administrators have been faced with pronounced monetary problems. Parallel with demands for expanded and improved medical services by more special staffing, there has developed an appreciable increase in operating costs. It is common knowledge that the cost of food, supplies, and repairs have soared. Hospital employees of prewar days who have experienced better pay, shorter hours, unemployment aid, and freedom from disease contact, no longer choose to work for less money. Expenditures in the past era of sanitarium economy, with dated and prearranged budgets, have been neither adequate nor sufficiently flexible to meet rising prices. We cannot keep abreast of current demands nor succeed if budgets are continued on prewar levels. We need not expect doctors, nurses, dietitians, and the "butcher, the baker and the candlestick maker" to give their services for much less than they can earn in private practice or expanding industry. Understaffed sanitariums have necessarily refused to admit bed patients, and patients have left the sanitariums because of help shortages, feeling that attention has been below reasonable demands.

With ever increasing opportunities in allied and better financed tuberculosis fields, our inadequacies will exist until we meet the salary

competition. In addition to existing personnel, a palpable need is felt for social service workers, pathologists, and psychiatrists. Research should be promoted.

REHABILITATION

The rehabilitation program will progress slowly at first. Work will lead us forward and develop into wider application as experience is gained. Government assistance with subsidy and good moral support are essential. Resulting economic repercussions probably will be felt and must be recognized. Measures adopted in the rehabilitation of the tuberculous must be regarded in the light of clinical tests. There will be disappointments and failures, but there will also be a high percentage of brilliant results. With the cooperation of social security, many cases otherwise helpless will be restored to self-supporting capacity, either in former employment or other sheltered industry. — G. E. Gwinn, M. D.

STREPTOMYCIN IN TUBERCULOSIS

A chemotherapeutic agent which would cure tuberculosis has for years been the phthisiologist's dream. The degree of success attendant upon the use of sulfonamides and penicillin has lent hope to the research worker in the fight against the tubercle bacillus. Promin, while ineffectual, increased further that hope, and now streptomycin, while probably not entirely effectual, certainly appears much nearer a specific against the bacillus of Koch than any agent so far used experimentally. However, the drug appears to be bacteristatic rather than bacteriocidal against Myco bacterium tuberculosis.

Hinshaw, Feldman and Pfuetze, in the September issue of *The American Review of Tuberculosis*, discuss their observations as a series of 75 cases of clinical tuberculosis treated with streptomycin as well as the use of the drug in experimental animals. They conclude that "streptomycin is a therapeutic antibiotic substance highly effective against tuberculosis of experimental animals and is of low toxicity for man". Their results in treating tuberculous patients "are consistent with the hypothesis that streptomycin exerts a suppressive effect on the progress of tuberculous infection in man," and that it "may represent the first clinically feasible antibiotic remedy for tuberculosis". They agree also with the idea expressed by Salkin in an article elsewhere in this issue of THE JOURNAL that streptomycin is to be used only as an adjuvant and not as a substitute for the accepted and time-proven therapeutic procedures now used in the management of tuberculosis.

Pfuetze and co-workers, in the November-December issue of *Diseases of the Chest*, report observations on "more than 100 patients afflicted with tuberculosis in its various forms". They believe that the minimal therapeutic dose is approximately one gram daily "for many weeks." Their "comment" is so concise and so well expressed that we quote it entirely:

"Streptomycin yielded results more encouraging than any of the other drugs which we have previously utilized in the treatment of tuberculosis. Its use appears to favor the healing process in a large percentage of the patients treated despite the fact that these patients were selected because of an apparently unfavorable prognosis.

"Streptomycin resembles other modern antibacterial agents in suppressing the multiplication of sensitive organisms without complete eradication of the infection. As a result, there is a tendency for the disease process to recur following cessation of streptomycin treatment in a chronic disease such as pulmonary tuberculosis. We believe that streptomycin may serve an important function in conjunction with other forms of treatment but that it should not be regarded as a substitute for well-established conventional forms of treatment."

AN APPRECIATION

Miss Ann M. Fox, for twenty-one years a member of the staff of the American Medical Association, and news editor of The Journal since 1940, has resigned to accept appointment as secretary of the Educational Committee of the Illinois State Medical Society. She assumed her duties December 12.

Miss Fox deserves the thanks of the state journals for the manner in which she has received, screened and passed for publication medical news from all over the United States. The West Virginia Medical Journal appreciates her cooperation in the expeditious handling of copy from this state and extends to her best wishes for continued success in her new position.

BCG VACCINE

The United States Public Health Service has recently announced that widespread use is to be made in the United States of BCG Vaccine which has been available in Europe for approximately

a quarter of a century. The decision to make an extensive study in this country of the value of the vaccine in the control of tuberculosis was reached after a conference in Washington of phthisiologists from China, Denmark, and the United States.

An editorial in the November 9 issue of *The Journal of the American Medical Association* says that accurate evaluation of the efficiency of the vaccine is still difficult although "all reports agree that (when) properly prepared and used (it is) harmless, as cases of tuberculosis caused by BCG vaccine have not been reported thus far." Discussing the subject further, *The Journal* continues:

"Holm of Denmark states that since 1940 vaccination with the bacillus of Calmette-Guerin has been adopted in that country as an essential weapon in the fight against tuberculosis. A large part of the young people of Denmark are tuberculin negative. Since it is known that tuberculin-negative persons acquire tuberculosis much more readily when exposed, BCG vaccination is believed to be a valuable adjunct in the control of tuberculosis.

"The Tuberculosis Dispensary of Copenhagen reports that morbidity and mortality from tuberculosis among the children in a tuberculosis environment have been reduced following vaccination to almost zero. Previously mortality among children exposed to tuberculosis in their homes was high, but in recent years children thus exposed have not died of tuberculosis, and children who became ill have a much milder form of tuberculosis than previously observed. Holm concludes that BCG vaccination gives considerable, although not absolute, protection.

"The allergy produced by the vaccination lasts more than three or four years. In the health department of Bergen, Norway, among 4,400 persons vaccinated who were observed up to three years only one developed ulcerative pulmonary tuberculosis and 11 developed tuberculosis of the hilar lymph nodes. The National Society Against Tuberculosis in Norway favored mass vaccination in 1945.

"Levine and Sackett, reporting the results of BCG immunization in New York City, assume a more conservative attitude. Although most reports have been optimistic, they feel that the vast majority of these studies have been inadequately controlled.

"The authors point to a number of factors which could affect the comparative results, such as parental cooperation, economic conditions, racial distribution, exposure, and lost cases. . . .

"The efficacy of BCG vaccination must be judged by its ability to reduce the tuberculosis mortality of children vaccinated in their homes in the midst of tuberculous environment. The authors conclude that as a public health measure the routine vaccination with BCG of children from tuberculous homes is less advantageous than removal of the tuberculous subject from the home."

TUBERCULOSIS AMONG MEDICAL STUDENTS

It has been commonly observed for years that medical students develop tuberculosis with considerable frequency, but only very recently, as far as we have observed, has any definite scientific study been devoted to the phenomenon.

The current *Yearbook of General Medicine* abstracts an article by Jeanneret and Gies of the University of Switzerland in which they study the frequency of the disease among medical students and the factors contributory thereto. They believe that upon admission to medical school from 30 to 40 per cent of students are tuberculin negative, but that the frequency of primary infection increases progressively as the course of study advances. They hold that the increase of contacts with tuberculosis patients accounts for this increase, and in almost all cases they found what was believed to be the source of the infection in the hospital where the students worked. They conclude that the length and strenuosity of the medical course and the fatigue incident to the study of medicine are also definite predisposing factors in the development of the disease.

Dr. Sarah I. Morris contributes a very illuminating article to the August issue of *The American Review of Tuberculosis* in which she presents the experience gleaned at the Woman's Medical College of Pennsylvania in a twelve-year study covering 449 medical students. Fifty-six cases developed, a clinical morbidity rate of 12.5%. There were 6 deaths, a case fatality rate of 10.7% and an overall mortality rate of 1.3%. A total of more than 100 years of time was lost from the lives of the stricken individuals. An average of 36% were tuberculin positive upon admission, but this percentage increased steadily until the

beginning of the senior year when 100% were Mantoux positive, and 16.7% of the entire group showed x-ray evidence of infection.

Dr. Morris' study is very complete and her control program well worked out. We quote her conclusions:

"Tuberculosis is to date the major occupational disease hazard of the student of medicine, during undergraduate and early graduate years.

"Infection with tuberculosis takes place readily in the medical school, chiefly in the preclinical years, and disease may follow during the clinical or postgraduate training periods.

"Disease occurs earlier and progresses more rapidly in women than men; hence, tuberculosis will be found more frequently during medical school years in the former and must be sought especially through the intern and resident years, as well as in medical school, for the latter.

"Autopsy service and the use of tuberculosis patients in demonstrations for physical diagnosis and clinical training constitute the chief sources of infection in routine medical school procedure.

"Where there is lack of appreciation of the gravity of tuberculous disease in the young adult, reliance on doubtful or controversial criteria for diagnosis and prognosis, or undue confidence in later application of collapse therapy, delay in diagnosis and treatment may readily result, with increased danger to the student.

"When withdrawal of diseased students is delayed or students return before full stabilization, disease progression, relapse and spread to others, by student-to-student contact, may be expected.

"The ultimate cost of tuberculosis to the student, in time lost, expense of treatment, sacrificed career or even life; to the medical school, in wasted educational efforts; to the profession, in loss of promising future physicians; and, indirectly, to the public, is far greater than generally realized.

"Development and operation of an adequate control program against tuberculosis in medical schools and hospitals is imperative. This should include case-finding and follow-up programs in medical schools; establishment of safer techniques in autopsy rooms, laboratories, clinics and wards of hospitals; obligatory entrance and periodic examinations of interns and residents, including x-ray examinations; early care of all tuberculous patients; and doutine examinations of all college and hospital personnel, including ambulatory and bed patients.

"Responsibility for safeguarding students and graduates of medicine against tuberculosis rests with the medical profession. Unless this is realized and responsibility assumed, compensation laws covering tuberculosis as an occupational compensable disease, already existent in some states, will probably become general."

PARENT PATTERN FOR CHILD

It is the family which is the basic unit of our society, the hothouse for our children, and thus the background for our men and women. It is in the emotional setting of the family that some of the secrets of our adult behavior have been found, far more than we had any idea of finding, and the more learned of the environmental importance, the fewer character traits and emotional difficulties have been delegated to hereditary causes.

One of the most striking findings is the way in which a child patterns himself on the character of the parent, a patterning which is emotionally forced to give a confusing pseudo-hereditary picture. In fact this process of patterning is an essential quality of growth itself and in a way the parent lives on as an emotional part of the child. Surprising as it may seem, this occurs just as readily when the parent is far from an exemplary person as it does when he or she is one. You may recognize this quality in one of your friends who bitterly resented one or the other of his or her parents and then with an uncanny exactness duplicated many of the resented mother's or father's attributes or traits. A child is a helpless thing who has no choice as to parentage, or as to models for his development.

It is an appalling fact in our society that everyone must be examined if he is to be allowed to drive a car, but that, examination or no, anyone can have a baby. Most animal husbandmen spend years in the scientific study of raising their stock. How many parents prepare themselves properly for the rearing of their children?—Douglas D. Band, M. D., in The Journal-Lancet.

BAL CURE FOR HEAVY-METAL POISONING

The ill wind that blew chlorine gas from the German lines across no man's land in World War I and that started a race for the development of more and deadlier chemicals for use in warfare has now blown in some good. During the present war the search for antidotes to neutralie the action of arsenical vesicants, one of the most potent of which is lewisite, has resulted in the discovery of a therapeutic agent that is effective in counteracting the local and systematic effects of poisoning with arsenicals and with some other heavy metals The agent is 2, 3-mercaptopropanol and has been called BAL (British anti-lewisite). Announcement of the development and properties of this substance has been withheld until recently for reasons of security.—New England Journal of Medicine.

General News

NEW OFFICERS ASSUME DUTIES WITH STATE MEDICAL ASSOCIATION JAN. 1

The new officers of the West Virginia State Medical Association, elected at the annual meeting of the House of Delegates at Huntington, last May, assume their duties the first of January.

Dr. Wade H. St. Clair, of Bluefield, succeeds Dr. Andrew E. Amick, of Lewisburg, as president. Dr. James S. Klumpp, of Huntington, and Dr. B. L. Page, of Buckhannon, succeed Drs. B. S. Brake, of Clarksburg, and J. B. Thompson, of Oak Hill, as first and second vice presidents, respectively. Dr. T. M. Barber, of Charleston, will begin his 22nd consecutive year as treasurer of the Association.

There is but one change in district councillors. Dr. M. H. Porterfield, of Martinsburg, succeeds Dr. Guy H. Michael, of Parsons, as councillor from the second district. Doctor Michael has served two full terms and was not eligible for reelection. Dr. Andrew E. Amick will serve as chairman of the Council during 1947, succeeding Dr. Thomas L. Harris, who will be councillor-at-large.

The following district councillors will serve in 1947: First district, R. D. Gill, Wheeling, and John P. Helmick, Fairmont; second, Carl E. Johnson, Morgantown, and M. H. Porterfield, Martinsburg; third, E. A. Trinkle, Weston, and J. E. Wilson, Clarksburg; fourth, Walter C. Swann, Huntington, and A. R. Sidell, Williamstown; fifth, N. H. Dyer, Charleston, and J. L. Patterson, Holden; and, sixth, W. P. Bittinger, Summerlee, and Thomas G. Reed, Charleston.

DR. WELLMAN ON PROGRAM

According to the American Medical Journal, Capt. G. O. Wellman, MC, of Hurricane, was one of the speakers at the bi-monthly meeting of doctors stationed in the Tokyo-Yokohama area, held at the 42nd General Hospital, November 13. Doctor Wellman's subject was, "Gunshot Wounds of the Abdomen and Rupture of the Liver."

SCIENTIFIC EXHIBITS

The Committee on Scientific Exhibit requests that all members who desire to arrange exhibits for the annual meeting of the State Medical Association in 1947 file applications immediately for space. Such applications should be addressed to Dr. Hu C. Myers, Philippi, chairman of the committee, or transmitted through Dr. C. B. Wright, of Huntington, or Dr. C. C. Fenton, of Morgantown, members of the committee.

MEMBERS OF ASSOCIATION'S STANDING COMMITTEES NAMED BY DR. ST. CLAIR

Standing committees of the West Virginia State Medical Association for 1947 have been named by Dr. Wade H. St. Clair, of Bluefield, the president. Dr. Henrietta L. Marquis of Charleston has been renamed chairman of the Committee on Child Welfare. The members of this committee, who were elected at the annual meeting of the House of Delegates last May, are as follows: Drs. Raymond Sloan, Huntington; Carl E. Johnson, Morgantown; Russell Bond, Wheeling; Harlow Connell, Bluefield; A. A. Shawkey, Charleston; and, Theresa O. Snaith, Weston.

Dr. W. E. Hoffman, of Charleston, was renamed chairman of the Committee on Maternal Welfare. The other members of this committee, who were also elected last May, are as follows: Drs. M. B. Williams, Wheeling; E. F. Heiskell, Morgantown; J. E. Page, Clarksburg; E. J. Humphrey, Huntington; H. G. Steele, Bluefield; and Carl S. Bickel, Wheeling.

The Scientific Work Committee was named by Doctor St. Clair at the last annual meeting. This committee is composed of Dr. Frank J. Holroyd, of Princeton, chairman; and, Drs. Cecil O. Post, of Clarksburg, and D. A. MacGregor, of Wheeling.

The members of the publication Committee are elected by the Council. This committee is composed of Drs. Walter E. Vest, of Huntington, chairman; Edward J. Van Liere, Morgantown; W. M. Sheppe, Wheeling; G. G. Irwin, Charleston; and R. H. Edwards, Welch.

The following is the complete list of the members of other standing committees appointed by Doctor St. Clair:

STANDING COMMITTEES

Cancer: J. Ross Hunter, Charleston, chairman; Russell B. Bailey, Wheeling; Chauncey B. Wright, Huntington; C. C. Fenton, Morgantown; Thomas Bess, Keyser; Paul R. Gerhardt, Charleston; H. H. Haynes, Clarksburg; M. W. Sinclair, Bluefield; and Thomas L. Harris, Parkersburg.

Revision of Constitution and By-Laws: J. Howard Anderson, Hemphill, chairman; John P. Helmick, Fairmont; Spencer L. Bivens, Charleston; Hu Myers, Philippi; James Ralston, Clarksburg; Wm. R. Laird, Montgomery; and C. M. Scott, Bluefield.

D. P. A. Advisory: Hugh A. Bailey, Charleston, chairman; Claude B. Smith, Charleston; and T. Kerr Laird, Montgomery.

Fact Finding and Planning: D. A. MacGregor, Wheeling, chairman; Guy H. Michael, Parsons; Bert Bradford, Jr., Charleston; George W. Easley, Williamson; Ray M. Bobbitt, Huntington; Carl E. Johnson, Morgantown; James L. Wade, Parkersburg; George F. Evans, Clarksburg; and E. L. Gage, Bluefield.

Industrial Health: J. J. Brandabur, Huntington, chairman; J. L. Patterson, Holden; H. M. Brown, Belle; W. F. Rogers, Parkersburg; W. V. Wilkerson, Prenter; W. P. Bittinger, Summerlee; George W. Easley, Williamson; J. B. Clinton, Fairmont; and George O. Nelson, Nitro.

Legislation: Frank V. Langfitt, Clarksburg, chairman; Russel Kessel, Charleston; James S. Klumpp, Huntington; R. O. Rogers, Bluefield; W. P. Black, Charleston; Ward Wylie, Mullens; and A. U. Tieche, Beckley.

Medical Education: R. J. Wilkinson, Huntington, chairman; E. J. Van Liere, Morgantown; P. A. Tuckwiller, Charleston; J. O. Rankin, Wheeling; and D. C. Ashton, Beckley.

Necrology: Harry G. Steele, Bluefield, chairman; Roy Ben Miller, Parkersburg; R. J. Reed, Wheeling; James McClung, Richwood; James R. Bloss, Huntington; and T. Jud McBee, Morgantown.

Publicity: R. K. Buford, Charleston, chairman; W. C. Swann, Huntington; R. J. Reed, Jr., Wheeling; N. H. Dyer, Charleston; A. R. Lutz, Parkersburg; and T. P. Mantz, Charleston.

Syphilis: Howard T. Phillips, Wheeling, chairman; C. A. Hoffman, Huntington; C. G. Power, Martinsburg; J. E. Offner, Fairmont; H. M. Escue, Charleston; and R. C. Neale, Bluefield.

Conservation of Vision and Hearing: V. E. Holcombe, Charleston, chairman; S. S. Hall, Clarksburg; A. C. Chandler, Charleston; F. O. Marple, Huntington; S. H. Burton, Weston; John H. Trotter, Morgantown; Ben Bird, Princeton; and E. C. Hartman, Parkersburg.

FEDERAL FUNDS FOR CANCER CONTROL

West Virginia will receive between $20,000 and $30,000 for cancer control activities from a special appropriation of $2,500,000 now being distributed by the U. S. Public Health Service. The appropriation made during the closing days of the last session of Congress is being allocated to the various states on the basis of population and need.

The amount of federal funds received by West Virginia will augment the state appropriation of $50,000 for the division of cancer control of the state Health Department. It will be used for furtherence of the educational program, aid in the establishment of tumor clinics, tissue diagnostic service for needy cancer patients, and for the care of needy cancer patients if the prognosis is good. Federal funds will not be used for palliation or for terminal care of advanced cancer patients.

The receipt of federal funds has provided for the expansion of the over-all cancer program in this state. It has enabled the division of cancer control to authorize limited diagnostic studies in suspected cancer patients and increase active treatment for needy patients.

INTERNATIONAL COLLEGE OF SURGEONS

The Twelfth Assembly of the United States Chapter, International College of Surgeons, will be held September 29-October 1-2, 1947, at the Palmer House in Chicago.

The Thirteenth Assembly is scheduled for November 16-18, 1948, at Kiel Auditorium, St. Louis, Missouri.

DR. E. F. REASER HEADS VA MENTAL HYGIENE CLINIC AT HUNTINGTON

The first mental hygiene clinic of its kind ever established in West Virginia, has been opened by the Veterans Administration at its regional office in Huntington.

Dr. Edward F. Reaser, former assistant superintendent of the Huntington State Hospital, has been named by Dr. Leo F. Steindler, chief medical officer, as supervisor and chief psychiatrist at the clinic. He resigned his position as assistant at the Huntington State Hospital effective November 15. He has recently been in Washington for the purpose of observing methods of treatment followed in the Washington regional office of the Veterans Administration.

According to Doctor Reaser, service-connected nervous disorders will be treated at the clinic through a process of study and reeducation. Members of the staff will be graduate physicians in the specialized branch of medicine, enabling them to make a thorough study of the veteran's problems and assist him in utilizing the natural forces within himself on the road to rehabilitation. Psychologists and social service workers will complete the personnel.

Doctor Reaser has made it plain that the treatment provided will have no relation to the rating of disabilities and that the clinic will be open to both men and women with service-connected disabilities of a nervous rather than organic nature.

STATE DELEGATION IN CONGRESS

Three new members of the West Virginia delegation in Congress will take their seats when the new session opens in January.

Francis J. Love, of Wheeling, Melvin C. Snyder, of Kingwood, and Dr. E. G. Rohrbough, of Glenville, succeed M. M. Neely, Jennings Randolph, and Cleveland M. Bailey, respectively, from the first, second and third congressional districts.

Hubert S. Ellis, of Huntington, John Kee, of Bluefield, and Dr. E. H. Hedrick, of Beckley, were reelected from the fourth, fifth, and sixth districts, respectively.

Senator Harley M. Kilgore continues as senator, having defeated Tom Sweeney, of Wheeling. W. Chapman Revercomb, of Charleston, is the other United States senator from West Virginia. His term of office will not expire until 1949.

1947 ROSTER

The annual roster of members printed in this issue of the Journal is augmented by an alphabetical list of members. Any errors found in either the county society or alphabetical list should be reported to the headquarters office before January 15, when the roster will be printed in pamphlet form for distribution to officers of local societies and other state medical associations, and journal advertisers.

SUPPLEMENTAL MEETING OF AMA HOUSE OF DELEGATES IN CHICAGO

At the winter meeting of the House of Delegates of the American Medical Association, held in Chicago, early in December, Rear Adm. Joel T. Boone, who is in charge of the survey of health conditions now being made by the Navy Department in the coal mining areas of the country, stated that coal mining communities "as a general rule" are deficient in health and sanitation conditions. He placed blame for present conditions on both employees and employers.

Admiral Boone pointed out that while there were exceptions, coal mining communities, particularly in the more densely populated and heavily productive coal areas, are deficient in such essential measures as adequate water supply controls, proper disposals of sewage and garbage, reasonable safeguards against contamination, protection in food and mild handling, and insect and rodent control measures.

The health survey, which has just about been completed after seven months of research in 26 states, was made by the Navy Department under the agreement between John L. Lwis, president of the United Mine Workers, and Secretary of the Interior Krug, entered into after the government seized the soft coal mines last spring.

Admiral Boone stated that the report of the survey would probably be made within the next few weeks.

The report of the Raymond Rich Associates, with reference to the public relations of the American Medical Association, part of which was released at the annual meeting at San Francisco, was considered by the House of Delegates in committee of the whole and in executive session. A report of the action taken by the House of Delegates is not available at the present time.

The meeting was atended by Dr. Walter E. Vest, of Huntington, and Dr. Ivan Fawcett, of Wheeling, as members from West Virginia. A total of 167 delegates were present.

Doctor Fawcett was appointed and served as a member of the reference committee on Reports of Officers.

AMA MAIL HEAVY

In the December 6 issue of "535", house organ of the American Medical Association, a write-up concerning the personnel office contains the information that outgoing mail varies from one and one-half million to two million pieces annually. Customers include doctors, students, book dealers, commercial organizations, nurses, municipal and state governments, and civic groups. It is estimated that over one hundred tons of outgoing mail is handled each year. Orders for books, pamphlets, magazines, miscellaneous printed matter and auto emblems, total from fifty to seventy-five thousand per year. Mr. B. M. Bruce is head of the mail order department and is also in charge of the personnel office of the AMA.

RURAL MEDICAL SURVEY

The Committee on Rural Health Service of the AMA is conducting a nationwide survey to determine the distribution of medical service in rural areas. Both the State Medical Association and the secretaries of all component societies are assisting in the survey, the results of which will be published in the Journal of the American Medical Association.

SURVEY IN COAL AREAS

The State Medical Association is cooperating with the Bureau of Medical Economic Research of the AMA in making a survey of doctors practicing in 38 coal-producing counties in West Virginia.

The survey is being made at the request of the Coal Mines Administrator to ascertain the extent of medical care available in all the coal mining areas of the United States. The same survey is being conducted in the coal mining areas of all other coal producing states.

Detailed reports are being prepared by secretaries of component societies for the use of the Coal Mines Administrator, and they will be transmitted to Washington by the AMA.

COUNCIL MEETING

The mid-winter meeting of the Council of the West Virginia State Medical Association is being held at Parkersburg as this issue of the Journal is on the press (December 29).

One of the principal items of business will be the selection of a place for the annual meeting in 1947. The Association has been definitely informed that The Greenbrier at White Sulphur Springs will not be available for convention purposes until 1948,

CONFERENCE ON RURAL HEALTH

The second national conference on rural health, sponsored by the AMA Committee on Rural Medical Service, will be held February 7-8, 1947, at the Palmer House, in Chicago. An opportunity will be provided at this meeting for the farmer and the doctor to exchange views concerning many questions which are of vital importance in developing a better health service in rural communities throughout the United States.

ANNUAL DUES

Annual dues of $15.00 are payable January 1, 1947. Members of the West Virginia State Medical Association are requested to transmit dues through their local secretary or treasurer. Medical veterans who were released at any time during 1946 will not pay dues until 1948, but dues are payable by medical veterans released prior to January 1, 1946.

DOCTORS LICENSED BY PHC

The Public Health Council has licensed thirty-two doctors to practice medicine in West Virginia as the result of the examination held in Charleston, October 7-9, 1946.

The following doctors were licensed by direct examination:

Townsend Woodard Anderson, Winchester, Virginia; Olan Terrell Coffield, Morgantown; Kirk Robert Deibert, Huntington; Robert Kingsley Fankhauser, Parkersburg; Robert Irving Fleming, Keystone.

Harold Floyd Gilbert, Belpre, Ohio; William Roy Green, Red Jacket; Irving John Hanssmann, Philippi; Henry Scott Mullens, Huntington; John William Newman, Lillybrook; Peter Joseph Novey, Omar.

Jack Roy Tayman Rafter, Keyser; Wilson Pedrick Smith, Huntington; Leonard Emory Yurko, Hollidays Cove.

The following doctors were licensed by reciprocity with other states:

Roberta Jean Hall Benchea, Weston; Robert Edward Carr, Gary; Harry Franklin Coffman, Keyser; George Alexander Curry, Fairview; James Richard Glasscock, Richwood.

Lester Osborne Gregg, Jr., Davis; Harold Nelson Harvey, Institute; John Kern Humphries, Portsmouth, Ohio; Russell Brooks Hunt, Clendenin; Delbert Vine Kechele, Bluefield.

Earl Ray Kinney, Fairmont; Joseph Louis Knapp, Weston; Mathias Franz Frederick Kohl, Elkins; Quentin James Legg, Charleston; John Eustace Lenox, Philippi.

Victor Anthony Politano, Milton; Paul Henry Ringer, Jr., Ward; Adney Kemple Sutphin, Beckley; Gates Jordan Wayburn, Huntington.

PHYSICAL THERAPY FILM

The newly produced motion picture, "A New Horizon," filmed by RKO-Pathe for The National Foundation for Infantile Paralysis and approved by the American College of Surgeons, is now available for the medical profession.

The film depicts a complete physical therapy department and shows the way in which it is utilized in the modern hospital.

The 16mm sound prints of this film can be secured on a loan basis or purchased, the price being $21.00. Address The National Foundation for Infantile Paralysis,, 120 Broadway, New York 5, N. Y.

COMMITTEE ON SCIENTIFIC EXHIBIT

Dr. Wade H. St. Clair, Bluefield, president of the West Virginia State Medical Association, has named the Committee on Scientific Exhibit for the annual meeting in 1947. All of the members of the committee who served in 1946 were reappointed as follows: Hu C. Myers, Philippi, Chairman; C. B. Wright, of Huntington; and Dr. C. C. Fenton, of Morgantown.

ANNUAL WINTER MEETING OF EDITORS AND STATE SECRETARIES IN CHICAGO

The annual conference of state secretaries and editors which convened at Chicago, December 7-8, was attended by representatives of state medical associations and state medical journals from all over the United States. Dr. Julian P. Price, editor of the Journal of the South Carolina Medical Association, was unanimously named chairman of the meeting.

Speakers on the program included Dr. George F. Lull, secretary of the American Medical Association; Dr. W. W. Bauer, director of the bureau of health education; Dr. Creighton Barker, secretary of the Connecticut State Medical Society; Dr. J. C. Sargent, of Milwaukee; Thomas B. McDevitt, of the American Medical Association bureau of legal medicine and legislation; and Dr. Stanley B. Weld, editor of the Connecticut State Medical Journal.

At the dinner for members of the conference, the principal address was delivered by Hon. A. L. Miller, member of Congress from the fourth congressional district, in Nebraska. On Sunday morning, December 8, the conference had as its guest speaker, Hon. Dwight H. Green, Governor of Illinois, who was presented by Dr. Robert S. Berghoff, president of the Illinois State Medical Society.

The principal matters discussed at the secretaries conference on the evening of December 7, concerned legislation, conduct of annual meetings, public relations, journal advertising, and technical exhibits at annual meetings.

The function of a state medical journal, its editors and business managers, and the need for wise selection in quality of scientific material used were among the matters discussed by the editors.

The meetings were held in the auditorium of the American Medical Association Building, and the full facilities of the American Medical Association were placed at the disposal of the guests during the meeting.

In his address before the conference, Governor Green asserted that the results of the election in November means that the immediate danger of a medical bureaucracy being established in this country has been averted. The Governor said that it was natural that in a period when "collectivist philosophies" are sweeping the world, proposals for some form of state medicine or socialized medicine should be given consideration. Because these proposals are being offered under the very attractive name of sickness insurance, he contended that it is difficult to oppose them.

The Governor made it plain that he believes that the November election has eliminated the possibility of the enactment at any time in the near future of that portion of the national health program which the medical profession regards as a threat to private enterprise and scientific progress.

The Governor assured the members of the conference that the new mandate for government is not to fight private enterprise, but to give it all possible cooperation in serving the people.

IMPROVED ARMY WATER PURIFICATION

Doubtless every veteran who has tasted chlorinated water as prepared in the battle areas will breathe a sigh of relief to know that the Surgeon General has announced the development of a new tablet for purifying water in the soldier's canteen which is considered superior to the chlorine-type tablets used during the war.

With iodine employed instead of chlorine, the new tablets make the drinking water less objectionable in taste and odor. Tests have shown that the iodine-containing tablet has greater sterilizing flexibility in that it can be used under a wide range of conditions. It is also more suitable and dissolves more quickly than its predecessor. This tablet was developed by scientists of the Army Medical Department, Quartermaster Corps and Corps of Engineers.

When the chlorine-containing tablets were dissolved in water, soldiers complained that they made the water unpleasant to the taste. It was found that even with strict supervision it was sometimes difficult to prohibit the soldiers from drinking water from streams or wells of questioned purity.

After examining a large number of different compounds, scientists found that triglycine hydroperiodide possessed the highest military characteristics. Quickly dissolving tablets containing this chemical which liberated seven and one-half parts per million of elemental iodine were subjected to extensive testing. It was found to be a safe and highly effective agent.

Additional tests of the new "tablet, water purification, individual, iodine," as the compound has been designated, will be carried out during the ensuing year.

IODINE TINCTURE—U. S. P. XIII

When the new U. S. P. XIII becomes official on April 1, 1947, the long-familiar seven per cent Tincture of Iodine will essentially be a product of the past. Iodine made its appearance in the U. S. P. in 1840. The first Tincture of Iodine contained 1 ounce of iodine in 1 pint of alcohol, closely representing the well-known seven per cent Tincture of Iodine of recent years. The Tincture was made seven per cent in the U. S. P. of 1890, and in 1900 five per cent of potassium was added as a preservative. In 1910 the formula was made to include fifty cc. of water, this Tincture remaining unchanged in the Pharmacopoeias of 1920, 1930, and 1940, namely U. S. P. X, XI and XII.

The coming U. S. P. XIII will recognize only one Iodine Tincture, the two per cent, and has deleted the seven per cent Solution. What was formerly called Mild Tincture of Iodine will now be known as *Iodine Tincture.*

Should a physician desire the former seven per cent Tincture for use as a counter-irritant it will be listed in the new National Formulary under the title "Strong Iodine Tincture." The formerly U. S. P. two per cent Solution of Iodine, for first-aid application, will also become a National Formulary product in the Eighth Edition.

PRACTICAL NURSE SYMPOSIUM

At the symposium on the training and service of practical nurses, held December 10, 1946, at the Ruffner Hotel in Charleston, a resolution was adopted recommending that a survey be made early in 1947 to ascertain the number of women between the ages of 18 and 50 who might be interested in a one-year course in practical nursing, and that such a course be developed as rapidly as interest warrants. The resolution was adopted after it had been stated by several speakers that there are now open many positions for trained practical nurses. In another resolution adopted at the symposium, it was suggested that the proper officials inaugurate a refresher course without delay for interested practical nurses who can show evidence that they have satisfactorily worked as a practical nurse within the state for the past year.

Miss Martha Woddell, R. N., of Clarksburg, presided at the meeting. Addresses were delivered by Dr. W. T. Sanger, of Richmond, president of the Medical College of Virginia; Miss Cecile Covell, R. N., Nursing Director, Neurological Center, Presbyterian Center, New York City; Miss Nettie Yowell, State Supervisor, Vocational Training for Women, State Department of Education; and Miss Hilda Torrop, R. N., president, National Association of Practical Nurses.

The meeting was sponsored by the West Virginia State Nurses Association, the State Hospital Association, and the State Medical Association.

ANNUAL MEETING NCMS IN FEBRUARY

The 20th Annual Meeting of the National Conference on Medical Service will be held at the Palmer House, Chicago, Illinois, on February 9. Registration will commence at 9:00 A. M. and the program will include discussions in the fields of national affairs, economics and medical education. All physicians are invited to attend, there is no registration fee. Dr. Cleon A. Nafe, Indianapolis, is President of the Conference and Creighton Barker, New Haven, is the Secretary. Dr. Walter E. Vest, of Huntington, is a member of the executive committee from West Virginia.

DIET CARDS AVAILABLE

Nutritional feeding cards are being distributed by the State Health Department and the State Nutrition Committee for use of physicians interested in infant and child feeding.

The form adopted was recommended by a committee appointed by the State Nutrition Committee at a meeting early last year. The committee was composed of Miss Virginia Robison, Marshall College, Huntington; Dr. Hu C. Myers, Philippi; and Mrs. Ruth J. Frantz, State Health Department, at Charleston.

According to Miss M. E. Ingoldsby, president of the State Nutrition Committee, the cards are being printed and distributed to meet the demand of physicians who desire to give them to their patients.

RELOCATIONS

Dr. L. E. Strickland, formerly of Strange Creek, who was recently released from military service, has located for the practice of his profession at Summersville.

* * * *

Dr. J. Paul Aliff, who has been located at Montcoal for several months, is now serving a residency at Charleston General Hospital.

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Dr. Martin Donelson, Jr., who has been practicing at Glen Ferris since his release from the service, has accepted a surgical residency at the University of Pennsylvania Hospital. His address is 121 W. Roosevelt Boulevard, Philadelphia 20, Pa.

* * * *

Dr. Robert M. Lamb, formerly of Winona, who was recently released from military service, has located at Lake Ronkonkoma, Long Island, New York.

* * * *

Dr. W. L. Johnston, of Princeton, who for many years has been engaged in industrial practice at McDowell, has retired from active practice.

* * * *

Dr. J. H. Woolwine, Jr., who was located at Tams prior to his entrance into military service in 1942, was released from military service last fall and returned to Blacksburg, Virginia, his home town. He is assistant physician at he Virginia Polytechnic Institute and also does private practice.

* * * *

Dr. C. T. Jones, who was located at Pemberton before the war, was released from military service in February, 1946, and has moved to Jefferson, North Carolina. He has located there permanently and has transferred his membership to the Ashe County Medical Society.

* * * *

Dr. Lewis E. Nolan, formerly of Montgomery, who was released from the Army Medical Corps in April, is taking refresher work in radiology and pathology at a hospital in Monroe, Louisiana. Doctor Nolan retains his rank of Lieutenant Colonel in the medical reserve corps of the army.

* * * *

Dr. Hal W. Smith, of Montgomery, who was released from military service late in 1946, has accepted a residency at the New York Eye and Ear Infirmary.

DOCTOR THORNHILL HONORED

Dr. William A. Thornhill, Jr., of Charleston, was elected a member of the American Academy of Allergy at the recent meeting held in New York City.

DOCTOR STEMPLE MARRIED

Dr. Margaret Stemple, of Morgantown, secretary of the Monongalia County Medical Society, was married November 28, 1947 (Thanksgiving), to Dr. Frank J. Moskal, of Chicago. Doctor Stemple will move to Chicago in the near future where she will be associated in practice with her husband.

ROSTER OF MEMBERS OF LEGISLATURE WHO WILL SERVE DURING 1947 SESSION

The 1947 session of the West Virginia legislature will convene in Charleston, January 8, 1947, at noon. The following official roster of the members of the Senate and House of Delegates has been compiled and released by J. R. Aliff, Clerk of the House of Delegates:

SENATE

District	Member
First	*George L. Bambrick (D.), New Cumberland Wm. A. Hannig (R), Elm Grove
Second	*Walter F. Burgess (R), Glen Dale Donald Van Camp (R), Middlebourne
Third	H. S. Boreman (R), Parkersburg *Thomas J. Davis (R), Harrisville
Fourth	Orton R. Karickhoff (R), Spencer *Harlan F. Staats (R), Ripley
Fifth	*C. H. McKown (D), Wayne Andrew R. Winters (D), Huntington
Sixth	*William Mitchell (D), Welch Glenn Taylor (D), Matewan
Seventh	*Glenn Jackson (D), Logon Lloyd G. Jackson (D), Hamlin
Eighth	Charles M. Love, Jr., (D), Charleston *Charles C. Morris (D), Charleston
Ninth	Eugene L. Scott (R), Beckley *Ward Wylie (D), Mullens
Tenth	*W. Broughton Johnston (D), Princeton Forest L. McNeer (D), Hinton
Eleventh	John H. Bowling (D), White Sulphur Springs *Arnold M. Vickers (D), Montgomery
Twelfth	*Fred C. Allen (D), Marlinton Henry J. McKinley (D), Elkins
Thirteenth	Hardin R. Harmer (R), Shinnston *Floyd D. Boner (D), Miletus
Fourteenth	Don J. Eddy (D), Morgantown *C. Howard Hordesty (D), Fairmont
Fifteenth	*A. L. Reed (R), Newburg Dayton R. Stemple (R), Philippi
Sixteenth	*Ralph J. Bean (D), Moorefield Harvey D. Beeler (R), Berkeley Sorings

(D) Democrat
(R) Republican
(*) Hold-over Senators, elected in 1944

Democrats	20
Republicans	12
Total	32

HOUSE OF DELEGATES

County	Members
Barbour	Darrell A. Malone (R), Philippi
Berkeley	Rev. Charles Beard (R), Martinsburg
Boone	E. E. White (D), Madison
Braxton	Doyle F. McLoughlin (D), Gassaway
Brooke	Merrill F. Arbogast (D), Wellsburg
Cabell	James Brady (D), Barboursville Mike Casey (D), Huntington J. Shelby Christian (R), Huntington Joe G. Gentry (D), Huntington Henry F. White (D), Huntington
Calhoun	Lewis E. Smith (D), Big Bend
Clay	Sylvester Mullins (D), Clay
Doddridge	F. E. Stickling (R), West Union
Fayette	P. H. Kelly (D), Montgomery R. L. Matthews (D), Montgomery J. Alex Tinsley (D), Montgomery Nell W. Walker (D), Winona
Gilmer	Paul H. Kidd (D), Glenville
Grant	Ralph P. Welton (R), Petersburg
Greenbrier	Claude E. McLaughlin (D), Lewisburg H. Rodgers McVey (D), Alderson
Hampshire	William H. Ansel, Jr. (D), Springfield
Hancock	Robert E. Roach (D), New Cumberland
Hardy	George C. Trumbo (D), Milam
Horrison	J. C. Burnside (R), Lost Creek Harvey W. Harmer (R), Clarksburg Walter A. Holden (D), Clarksburg Edgar S. White (R), Clarksburg
Jefferson	George R. McKee (D), Shepherdstown
Jackson	Bradford Sayre (R), Cottageville

County	Member
Kanawha	John E. Amos (D), Charleston William F. Blue (R), Charleston Robert Lee Burgess (D), Charleston Doral Chenoweth, Jr. (D), Charleston J. Hornor Davis (D), Charleston Frank A. Knight (D), South Charleston James W. Loop (D), Charleston Carl N. Woodrum (R), Charleston
Lewis	Rush D. Holt (D), Weston
Lincoln	B. R. Osborne (R), Griffithsville
Logan	W. E. Flannery (D), Man Jerry Stidham (D), Holden Curtis B. Trent, Jr. (D), Logan
Marion	Fred L. Doringer (D), Fairmont Clarence L. Hall (D), Fairmont Joseph Rosier (D), Fairmont
Marshall	William J. B. Miller (R), Moundsville Everett F. Moore (R), Moundsville
Mason	J. G. F. Johnson (R), Pt. Pleasant
Mercer	A. L. Lubliner (D), Bluefield E. H. Martin (D), Princeton Walter Vergil Ross (D), Bluefield
Mineral	John I. Rogers (R), Keyser
Mingo	Toney E. Cline (D), Baisden George Floyd (D), Delbarton
Monongalia	Dr. J. W. Hartigan (R), Morgantown Roy F. Hayhurt (R), Morgantown
Monroe	Sherman H. Ballard (R), Peterstown
Morgan	Ward M. Dawson, Sr (R), Berkeley Springs
McDowell	J. C. Hansbarger (D), Welch Fleming A. Jones, Jr. (D), Welch W. L. Mills (D), Kimball E. B. Shannon (D), Welch Bernard H. Woodyard (D), Welch
Nicholas	O. J. Carroll (D), Summersville
Ohio	George F. Beneke (R), Wheeling William T. Emblen (R), Wheeling E. J. Flaccus (R), Wheeling William C. Piper (R), Wheeling
Pendleton	William McCoy (D), Franklin
Pleasants	J. C. Powell (R), St. Marys
Pocahontas	June McElwee (D), Marlinton
Preston	Paul R. Maness (R), Albright
Putnam	Opie L. Jeffries (R), Red House
Raleigh	Robert C. Byrd (D), Crab Orchard William H. File, Jr. (D), Beckley Roy Lee Harmon (D), Beckley
Randolph	Thomas P. Snelson (D), Huottonsville
Ritchie	Robert Morris (R), Harrisville
Roane	R. L. McCulty (R), Spencer
Summers	Harold B. Eagle (R), Hinton
Taylor	Fred H. Carder (R), Grafton
Tucker	Cleon W. Raese (R), Davis
Tyler	Cecil H. Underwood (R), Sistersville
Upshur	H. Hayden Morgan (R), Adrian
Wayne	Jonah Adkins (D), Ceredo H. T. Tucker (D), Huntington
Webster	Carp Robinson (D), Webster Springs
Wetzel	Herbert Schupbach (D), New Martinsville
Wirt	Roy I. Douglas (R), Elizabeth
Wood	H. E. Clovis (R), Parkersburg Spencer K. Creel (R), Parkersburg Richard C. Moore (R), Parkersburg
Wyoming	C. A. Blankenship (D), Pineville

(D) Democrat
(R) Republican

Democrats	56
Republicans	38
Total	94

NEW B-R-T OFFICERS

Officers of the Barbour-Randolph-Tucker Medical Society have been elected for 1947 as follows: President, R. J. Condry, Elkins; first vice president, F. K. Lyon, Parsons; 2nd vice president, T. L. Woodford, Belington; secretary-treasurer, Donald R. Roberts, Elkins (reelected); censor, W. G. Harper, Elkins; delegates, W. E. Whiteside, Parsons, H. C. Myers, Philippi, and Donald R. Roberts.

TAYLOR COUNTY FIRST OVER TOP

The Taylor County Medical Society is the first component society to report one hundred per cent paid up membership for 1947. Check for State Medical Association dues of all the members of the society was received at the headquarters office in Charleston, December 10.

MERCER COUNTY ELECTS

Dr. E. Lyle Gage, of Bluefield, has been elected president of the Mercer County Medical Society to succeed Dr. A. C. Van Reenan, of Bluefield. The other officers elected for 1947 are as follows:

Vice president, Daniel Hale, Princeton; secretary, Frank J. Holroyd, Princeton (reelected); treasurer, R. C. Fugate, Bluefield; delegate, C. M. Scott, Bluefield; alternates, O. G. King, Bluefield, (two-year term), and J. I. Markell, Princeton, (one-year term); censor, C. I. Butte, Matoaka.

POTOMAC VALLEY OFFICERS

The following officers have been elected by the Potomac Valley Medical Society for 1947:

President, J. H. Wolverton, Jr., Piedmont; vice presidents, J. B. Grove, Petersburg, O. V. Brooks, Moorefield, R. W. Dailey, Romney, O. F. Mitchell, Franklin, and Robert Bess, Keyser; secretary-treasurer, E. A. Courrier, Keyser (reelected); board of censors, W. A. Flick, Keyser, J. H. Wolverton, Sr., Piedmont, and R. W. Love, Moorefield; memorial, W. F. McFarland, Keyser, T. C. Giffin, Keyser, and P. R. Wilson, Piedmont; program, Thomas Bess, Keyser, P. R. Wilson, and T. C. Giffin.

CHANGES IN LOCATION

Dr. Norman L. Cardey, formerly of Winona, who served in the Army Medical Corps for over five years and was released from service in September, 1946, is now serving a residency in surgery at the California Hospital in Los Angeles.

During World War II, Doctor Cardey saw service in Italy, France, and Germany, being assigned to the 11th Evacuation Hospital, which won a citation in France. He was awarded four Battle Stars and an Arrowhead (landing in France on D-Day). He was serving with the rank of Major upon his release from service.

* * * *

Dr. Darrell A. Campbell, who located in Charleston for the practice of surgery for several months after his release from military service, is now located in Eloise, Michigan, where he has accepted the position of chief of the surgical staff of the Wayne County General Hospital.

ACS HONORS DOCTOR HUNTER

Dr. J. Ross Hunter, of Charleston, was reelected a member of the Board of Governors of the American College of Surgeons at the annual meeting held in Cleveland in December.

INHERITANCE OF MENTAL DISEASE

The inheritance of derangement of the mental faculties of man indeed is a difficult problem, partly because it cannot be experimentally tested, partly because the diagnosis is often uncertain, and partly because the role played by environment is difficult if not impossible to define. The scientific achievements in genetics in reference to the localization of the genes in the chromosomes, their specific laws of appearance and combination in the mendalin progeny are not applicable. Personality and character are difficult to be studied genetically. The fruit fly's and the schizophrenic's germ plasm or their best possible blastophoria are not in approximation, and their character or behavior scales are obviously not comparable.

If one analyzes pedigrees or family histories of mental patients, one finds many forms of taints in the ancestry and relatives which suggest neurophatic or psychophatic inheritance (polymorphism). However, an equal number of noninsane of the same sex, age, race, social, moral and economic status may present hereditary taints in a high proportion, so that often the pedigree of the normal is not much different from the abnormal. In the average population, schizophrenia occurs in 3 or 4 thousand. In the schizophrenia, in some cases of feeblemindedness, and in the manic-depressive psychoses do hereditary factors appear to be of importance.—Hans H. Reese, M. D., in Wisconsin Medical Journal.

INFLUENZA VACCINES

Considerable information has been accumulated in recent years concerning preventive vaccines against influenza-virus infections, and the subject matter has been given considerable publicity both in the lay press and in the literature distributed by pharmaceutical firms. Physicians will have considerable difficulty deciding whether or not such a vaccine should be given to any individual or group. In arriving at a decision, the well known facts concerning the available vaccines, their efficacy and the untoward effects to be expected should be taken into consideration.

Influenza vaccines are now being marketed by several of the leading manufacturers of biologicals in this country. Their products are recommended for subcutaneous injection. The dose is a single injection of 1 cc. for adults, and two doses of 0.5 cc. each given a week apart are recommend for children. For batches of vaccine that produce excessive local or systemic reactions, the dose recommended for children should be used in adults as well.

The optimum protection to be expected from this vaccine, which is achieved about two weeks after the first injection, corresponds to the time of the maximum rise of antibody. Little if any protection may be expected within the first week after vaccination. The protection lasts at least three or four months and probably as long as a year or more. Its efficacy in protecting against both influenza A and B has already been fairly well established.—New England Medical Journal.

THE HOSPITAL PATHOLOGIST

From the viewpoint of significance, the publications of the institute or academic pathologist usually have great weight, but from the viewpoint of human welfare, the hospital pathologist can be eminently useful. To be sure there is an aristocracy of the intellect and correspondingly an aristocracy of pathologists. This is not determined by participation in societies and meetings but by attainment in scientific pursuits. It should not justify envy or awe on the part of the less fortunate nor an attitude of superiority on that of the distinguished investigator. Mutual respect founded on a clear conception of the aims of all groups will go far in preserving and advancing pathology.

Funds must be made available if pathology is to advance. Salaries must be sufficient for the pathologist and his family; the best work can be accomplished only if personnel is reasonably free of financial worry. Money alone can provide space, equipment, materials and all the intricate facilities necessary. Young people may enter the field without foreknowledge of their future, but they do not stay unless they have reasonable assurance that if they survive competition they can face their careers with a certain degree of equanimity. Nevertheless, in my opinion, the economic aspects are largely dependent on the pathologist himself and what he can offer to science and medicine.—Howard T. Karsner, M. D., in Bull. N. Y. Acad. Med.

BORIC ACID POISONING

Boric acid poisoning has not been entirely confined to the nursery, as is evidenced by the recent revelation that boric acid may be absorbed in toxic quantities from ointments applied to burned areas or to wounds involving loss or damage to large areas of the skin or even when 5 per cent boric solution is used to irrigate cavities. It seems that the favorable results obtained in the treatment of the victims of the Cocoanut Grove disaster, when boric acid ointment and white petrolatum was used under pressure dressings, resulted in an official recommendation of its use by the Subcommittee on Burns of the National Research Council. This recommendation was later rescinded when the question of boric acid toxicity arose. The Navy, which had summarized this treatment in a circular letter to all of its medical officers, later became skeptical when Cope, in a report on the care of the victims of the Cocoanut Grove fire at the Massachusetts General Hospital, suggested that "too rapid absorption of boric acid might result in poisoning." Because of the growing tendency to use boric acid ointment, studies were undertaken at the Naval Medical Research Institute at Bethesda, Maryland, to determine possible toxicity when boric acid was used in burns and they have revealed that it can no longer be regarded as the bland antiseptic which it has always been believed to be.—International Medical Digest.

THE DOCTOR AND HIS FEE

Most physicians welcome a frank discussion of fees before treatment is undertaken. Misunderstandings start with a failure on the part of the physician to come to a distinct understanding with his patients, and a failure on the part of the patient to ask for such an understanding. When asked about the fee, the physician should not evade a definite answer by reassuring the patient that all wil be well and that he need not worry about the charges. When a patient receives a bill which he considers beyond his means, he will have good cause for complaint if he is not given the sympathetic and reasonable adjustment of the bill to his circumstances which he was led to believe he would get.

Month after month in the JOURNL there is repeated an appeal to each member of the Society to feel his public relations responsibility by keeping his individual physician-patient relationship above reproach. Bad practices of a few profiteering physicians can bring public censure on the whole profession. Organized medicine has been sharply criticized as lacking the courage to discipline its own mmbers. County medical associations can fight socialized medicine in no more effective way than by placing a firm, restraining hand on any member who thus endangers the freedom of the whole profession. You have the mechanisms. Have you the courage to use them?—Connecticut State Medical Journal.

ROCKY MOUNTAIN SPOTTED FEVER

Rocky Mountain spotted fever occurs in a large number of states. It is conveyed to human beings by the bites of ticks. In eastern and southern states the vector is the dog tick, in the northwest it is the wood tick, and in southwestern states it is occasionally the lone star tick.

The symptoms of Rocky Mountain spotted fever appear suddenly. They include fever, headache, extreme sensitiveness of the eye to light, pains in the muscles and joints, and chills. A rash spreads over the body after the third or fourth day of fever.

About 20 per cent of Rocky Mountain spotted fever cases have been fatal. However, vaccination reduces the chance of infection and lowers the fatality rate. A serum also is available for treatment, and a new treatment recently has been tried by doctors.

Precautions to be taken against Rocky Mountain spotted fever include avoiding tick-infested areas, vaccination of persons whose work takes them into tick areas, and careful search of the clothing and the body at noon and at night after going into the woods during tick season. Ticks can be recognized by their flat, leathery appearance and their eight legs. If a tick is found on the person it should be removed carefully with tweezers or a piece of paper so that it will not be crushed, and so that the fingers will not come in contact with it. —The Journal Lancet.

SURGERY AND THE CANCER PROBLEM

The endeavors of surgeons over the years to meet the challenge of cancer have resulted in appreciable advances in treatment. Six decades ago cancer of the breast was almost invariably fatal; today the patient with early cancer is offered at least a "60 per cent chance" for cure. At the turn of the century cancer of the stomach was regarded as hopeless.

An interesting paper by no less an authority than the late William H. Welch, written in the eighties, four years after Billroth's first plyorectomy, included a discussion of why the surgical attack against cancer of the stomach was doomed to failure. Each one of the "insurmountable" obstacles mentioned has since been partially or completely surmounted. Today, the patient surviving five years following gastrectomy for cancer is no longer a medical curiosity. Fifteen years ago the patient with cancer of the lung, lower esophagus, proximal stomach, or pancreas was regarded as hopeless merely by virtue of the location of the growth; today operations for removal of these neoplasms are carried out in many centers and patients have survived for years. Furthermore, improvement in cancer surgery based upon advances in supportive treatment permits appreciable extension of life in comfort for some patients belonging to a group previously regarded to be in the terminal stages of the disease. Indeed, prolonged survivals among them are increasing as time goes on.

These endeavors must not be classified merely as phases in the routine care of patients by clinicians engaged in the routine practice of their profession. They constitute "cancer research" of a type, and no small measure of success has been attained.—Alexander Brunschwig, M. D., in Surgery, Gynecology and Obstetrics.

MORTALITY DECLINES IN APPENDICITIS

The remarkable decline in the mortality from appendicitis deserves more than passing mention. The death rate from this cause for the first six months of the year was only 3.1 per 100,000 insured, less than half the corresponding rate five years ago, and less than one third that of a decade ago. Two major factors account for this achievement in life conservation: the use of chemotherapy in cases complicated by peritonitis, and the national educational campaign which informed people of the dangers of delay in seeking medical advice, and of the dangers of using laxatives in the presence of abdominal pain.

Another favorable development this year has been the continued decline in the mortality from cerebrospinal meningitis. The rate so far this year is 1.1 per 100,000 insured, or down 15 percent from the comparable figure of last year. The death rate, moreover, is only one third of that in 1943 and 1944, when wartime conditions led to a new high in the incidence of the disease.—Statistical Bulletin, Metropolitan Life Insurance Co.

1947 ROSTER OF MEMBERS
WEST VIRGINIA STATE MEDICAL ASSOCIATION
(Alphabetical List)

— A —

Abersold, G. W. . . . . Wheeling
**Ackermann, W. E. . . . . Wheeling
Adams, W. A. . . . . Parkersburg
Albrecht, Mordecai . . . . . Charleston
Aliff, J. Paul . . . . . Charleston
**Aliff, Robert C. . . . . Richmond (Va.)
**Allen, Ross . . . . . Clarksburg
*Allen, S. P. . . . . Coronado Beach (Fla.)
**Allman, W. H. . . . . Clarksburg
Altizer, A. E. . . . . Accoville
Amick, Andrew E. . . . . Lewisburg
*Amick, A. L. . . . . Charleston
**Amick, F. E. . . . . Charleston
Anderson, J. H. . . . . Hemphill
Anderson, R. L. . . . . Charleston
Andrew, H. M. . . . . Weston
Angell, H. W. . . . . Charleston
Angstadt, Norman G. . . . . Charleston
**Appleby, Geo. S. . . . . Martinsburg
Armbrecht, Robert J. . . . . Wheeling
**Armentrout, A. W. . . . . Martinsburg
Armentrout, Lewis H., Jr. . . . . Charleston
Arnett, J. C. . . . . Rowlesburg
Artz, Curtis P. . . . . Columbus (O.)
**Asch, James T. . . . . Parkersburg
**Ashman, Hyman . . . . . New York (N.Y.)
**Ashton, D. C. . . . . Beckley
Ashworth, Glenn . . . . . Morgantown
**Ashworth, Harold B. . . . . Moundsville
Ashworth, Robert A. . . . . Moundsville
*Aultz, L. L. . . . . Ward
Azar, Harry N. . . . . Wheeling

— B —

Baber, James H. . . . . Huntington
**Bachwitt, David . . . . . South Charleston
Baer, Robert E. . . . . South Charleston
**Baer, Thomas B. . . . . Huntington
Bailey, H. A. . . . . Charleston
Bailey, J. B. . . . . Davy
Bailey, Meryleen . . . . . Rock
Bailey, Russell B. . . . . Wheeling
Bailey, R. W. . . . . Hurricane
Baker, W. P. . . . . Morgantown
**Baldock, H. E. . . . . Charleston
**Ballard, O. D. . . . . Van
**Bandi, R. T. . . . . Wheeling
Banks, F. L. . . . . Beckley
Banks, J. B. . . . . Charleston
*Banks, M. C. . . . . Raleigh
Barber, Daniel N. . . . . Charleston
Barber, T. Maxfield . . . . . Charleston
Barbour, W. L. . . . . Whitesville
Barker, J. F. . . . . Huntington
**Barnes, Gareth B. . . . . Newburg
**Baron, L. E. . . . . Mannington
**Barrett, R. S. . . . . Huntington
Barr, James M. . . . . Worthington
**Basman, Jack . . . . . Charleston
**Bateman, H. G. . . . . Williamstown
**Batten, James C. . . . . Parkersburg
Bays, A. E. . . . . Montgomery

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† In Military Service
* Honorary Member
** Released from Military Service

**Beard, H. E. . . . . Huntington
**Beaumont, G. L. . . . . New Cumberland
Beckner, W. F. . . . . Huntington
Beddow, H. M. . . . . Charleston
Belgrade, J. T. . . . . Wheeling
Belknap, Helen M. . . . . St. Albans
Bennett, J. A. . . . . Algoma
Benson, Don S. . . . . Moundsville
Bentley, C. M. . . . . Freeburn, (Ky.)
Berry, P. E., Jr. . . . . Piedmont
**Bertling, M. H. . . . . Durham, (N. C.)
**Bess, R. W. . . . . Piedmont
Bess, Thomas . . . . . Keyser
**Bevauqua, W. A. . . . . Parkersburg
**Bickel, Carl S. . . . . Wheeling
**Biddle, Robert . . . . . Parkersburg
Biern, O. B. . . . . Huntington
Biggart, J. F. . . . . Mullens
Bilger, F. W. . . . . McComas
Bippus, E. S. . . . . Wheeling
Bird, Ben W., Jr. . . . . Princeton
**Bird, J. D., Jr. . . . . Wheeling
Bitner, E. H. . . . . Martinsburg
Bittinger W. P. . . . . Summerlee
**Bivens, S. L. . . . . Charleston
Black, W. P. . . . . Charleston
Blagg, B. V. . . . . South Charleston
Blair, F. L. . . . . Parkersburg
**Blair, Holmes . . . . . Parkersburg
Blake, T. H. . . . . St. Albans
**Blanton, J. L. . . . Clifton Springs, (N.Y.)
Blaydes, J. E. . . . . Bluefield
Bloss, J. R. . . . . Huntington
Blum, E. C. . . . . New Martinsville
Bobbitt, O. H. . . . . Charleston
Bobbitt, R. M. . . . . Huntington
**Bobes, S. S. . . . . Wheeling
**Bock, R. C. . . . . Charleston
Bogarad, M. . . . . Weirton
**Boggs, E. H. . . . . Wheeling
**Boggs, W. C. . . . . Wheeling
**Boiarsky, Julius L. . . . . Charleston
Boice, R. H. . . . . Parkersburg
Boland, L. F. . . . . Williamson
Bolen, J. W., Jr. . . . . New York, (N.Y.)
Bonar, M. L. . . . . Charleston
**Bonar, R. R. . . . . Philadelphia, (Pa.)
Bond, R. C. . . . . Wheeling
Bone, B. F. . . . . Moundsville
Bonnar, J. M. . . . . Fairmont
**Booher, W. T. . . . . Wellsburg
**Boso, C. H. . . . . Huntington
*Bosworth, J. L. . . . . Elkins
Bourne, W. D. . . . . Barboursville
Boutwell, J. H. . . . . Huntington
Bowles, A. G. . . . . Beckley
**Bowyer, A. B. . . . . Charleston
*Boyers, C. L. . . . . Parkersburg
Bracey, A. H. . . . . Welch
Bracey, H. A. . . . . Welch
**Bradford, Bert, Jr. . . . . Charleston
**Bradford, Wm. P. . . . . Moundsville
Brady, A. Spates, Jr. . . . . Charleston
Bragonier, R. K. . . . . Keystone
Brake, B. S. . . . . Clarksburg
**Brammer, F. E. . . . . Dehue
**Brand, J. M. . . . . Chester
Brandabur, J. J. . . . . Huntington

**Brannon, Dorsey . . . . . Morgantown
Brannon, E. H. . . . . Bridgeport
Bray, C. M. . . . . Morgantown
Breisacher, C. F. . . . . Charleston
Brennan, J. T. . . . . Clarksburg
Bressler, David . . . . . Monongah
Brewer, W. E. . . . . Logan
Brewster, G. W. . . . . LaGrange, (Ky.)
**Brick, John P. . . . . Charleston
Broaddus, R. G. . . . . Beckley
Bronaugh, Wayne . . . . . Parkersburg
Brooks, O. V. . . . . Moorefield
Brown, B. F. . . . . Huntington
Brown, C. Leonard . . . . . Pt. Pleasant
*Brown, C. N. . . . . Swandale
Brown, E. S. . . . . Summersville
Brown, Fred A. . . . . Huntington
Brown, Geo. H. . . . . Wheeling
Brown, H. M. . . . . Charleston
*Brown, H. S. . . . . Sutton
**Brown, J. R. . . . . Huntington
*Brown, R. J. . . . . Sutton
*Brugh, Ben F. . . . . Clearwater, (Fla.)
*Bruns, William F. . . . . Ceredo
Bryant, R. F. . . . . New Haven
Buff, I. E. . . . . Charleston
**Buffington, C. B. . . . . Wheeling
Buford, R. K. . . . . Charleston
Bull, S. W. . . . . Spencer
Burdette, R. A. . . . . Charleston
Burger, R. E. . . . . Welch
Burgess, W. H. . . . . Williamson
Burian, F. J. . . . . Williamson
Burke, C. P. . . . . Thomas
*Burton, G. M. . . . . Weston
*Burton, S. H. . . . . Weston
**Bush, Kyle . . . . . Philippi
Butt, A. P. . . . . Elkins
**Butte, C. I., Jr. . . . . Matoaka
**Butterfield, D. L. . . . Waynesboro, (Ga.)

— C —

Caldwell, Joseph R. . . . . Wheeling
Calfee, Wm. R. . . . . Whitesville
Calvert, James W. . . . . Lamar
**Calvert, R. L. . . . . Chelyan
*Camp, Wm. C. . . . . Spencer
Campbell, O. C. . . . . Hamlin
Campbell, O. S. . . . . Grafton
Camper, Harry G. . . . . Welch
Cannaday, John E. . . . . Charleston
Capito, G. B. . . . . Charleston
**Cardey, N. L. . . . . Los Angeles, (Cal.)
**Carr, A. B. . . . . War
†Carr, Joel F. . . . . Huntington
Carter, C. J. . . . . Fairmont
Carter, E. S., Jr. . . . . Montgomery
**Carter, W. Smoot . . . . . Charleston
Caserta, Peter . . . . . Morgantown
Casto, O. J. . . . . Parkersburg
**Castrodale, Dante . . . . . Welch
Chambers, H. D. . . . . Huntington
Chambers, R. W. . . . . Beckley
Chambers, V. L. . . . . Huntington
Champe, I. P., Jr. . . . . Charleston
**Chandler, A. C. . . . . Charleston
**Chandler, C. B. . . . . Iaeger
Chandler, F. C. . . . . Bridgeport

Chapman, C. B. . . . . Welch
Christian, L. E. . . . . Huntington
**Churchman, V. T., Jr. . . . . Charleston
**Claiborne, W. L. . . . . Ansted
**Clapham, Roger E. . . . . Martinsburg
Clark, C. T. . . . . Iaeger
Clark, F. A. . . . . Charleston
Clay, C. Stafford . . . . . Huntington
Clements, B. S. . . . . Matoaka
Clinton, J. B. . . . . Fairmont
Clovis, Charles H. . . . . Wheeling
Clovis, E. E. . . . . Wheeling
*Cobun, L. W. . . . . Morgantown
Cochrane, C. C. . . . . Kimball
Cofer, J. M. . . . . Bergoo
**Coffey, F. L. . . . . Huntington
Coffindaffer, R. S. . . . . Shinnston
**Coffman, Harry . . . . . Keyser
**Coffman, Robert . . . . . Keyser
Coleman, H. M. . . . . Iaeger
Collins, A. B. . . . . Blacksville
Collins, James C. . . . . Fairmont
Combes, Lloyd George . . . . . Holden
Compton, J. W. . . . . Ronceverte
**Condry, John C. . . . . Charleston
**Condry, R. J. . . . . Elkins
**Conklin, Carl P. . . . . Huntington
Conley, Orva . . . . . Parkersburg
Connell, H. R. . . . . Bluefield
Connolly, Ira . . . . . Parkersburg
**Connolly, Randall . . . . . Parkersburg
†Conrad, H. R. . . . . Elkins
**Cook, J. R. . . . . Huntington
**Cooke, W. L. . . . . Charleston
Coontz, Otis H. . . . . Pomona, (Calif.)
Cooper, E. R. . . . . Man
*Cooper, O. O. . . . . Feather Falls, (Calif.)
*Copeland, C. E. . . . . Charleston
Copeland, H. B. . . . . Wheeling
**Coplin, R. W. . . . . Huntington
Coram, J. M. . . . . Beckley
**Corbitt, Richard . . . . . Parkersburg
Corder, G. G. . . . . Jane Lew
Corder, O. W. . . . . Minden
Cottle. S. W. . . . . Morgantown
Coulon N. F. . . . . Thorpe
**Counts, W. R. . . . . Welch
Courrier, E. A. . . . . Keyser
Covert, O. F. . . . . Moundsville
Covey, W. C. . . . . Beckley
Cox, L. E. . . . . Charleston
Cracraft, W. A., Jr. . . . . Wheeling
**Crank, Gilbert O. . . . . Clarksburg
Crews, A. W. . . . . Washington, (D. C.)
Criss, H. L. . . . . Fairmont
Cronin, D. J. . . . . Huntington
*Crooks, E. W. . . . . Parkersburg
Cruikshank, D. P . . . . . Lumberport
Crynock, P. D. . . . . Morgantown
**Cunningham, G. R. . . . . Tams
Cunningham, R. M. . . . . Bluefield
Cunningham, W. H. . . . . Beckley
Curry, R. H. . . . . Barboursville
Cutright, R. G. . . . . Buckhannon

— D —

Dailey, R. W. . . . . Romney
**Dalton, H. M. . . . . Memphis, (Tenn.)
Daniel, D. D. . . . . Beckley
*Daniel, G. P. . . . . Glen Daniel
Daniel, R. P. . . . . Pemberton
**Daniels, W. F. . . . . Huntington
Davidson, S. G. . . . . Bluefield
Davis, C. A. . . . . Logan

† In Military Service
* Honorary Member
** Released from Military Service

†Davis, Delroy R. . . . . Kingwood
*Davis, E. A. . . . . Charleston
Davis, Edward . . . . . Salem
**Davis, H. C. . . . . Bluefield
Davis, J. E. . . . . Welch
Davis, R. E. . . . . Parkersburg
Davis, W. B. . . . . Parkersburg
Davis, W. M. . . . . Bridgeport
**Davis, Wm. . . . . Parkersburg
**Davisson, C. R. . . . . Weston
**Dawson, Rank O. . . . . Charleston
Dearing, Walter H. . . . . Mead
Dearman, A. Morgan . . . . . Parkersburg
Deason, Virgil A. . . . . Logan
*Deeds, L. W. . . . . Buckhannon
**Del Vecchio, J. J. . . . . Wheeling
Dent, C. F. . . . . Morgantown
**Dent, Duke A. . . . . Charleston
DePue, J. M. . . . . Spencer
**Derkach, S. L. . . . . Glen Rogers
**DiCello, A. J. . . . . Elkins
**Dickerson, L. A. . . . . Oak Hill
**Dillinger, K. A. . . . . Weston
**Dobbs, F. H. . . . . Wheeling
**Dobbs, L. F. . . . . Huntington
*Doddrill. J. B. . . . . Webster Springs
**Dodson, Ross M. . . . . Huntington
**Donelson, Martin, Jr. . Philadelphia, (Pa.)
Dorsey, C. S. . . . . Kingston
Dotson, Samuel C., Jr. . . . . Cameron
*Drinkwater, W. G. . . . . Gormania
**Drinkard, R. U., Jr. . . . . Wheeling
Duling, M. S. . . . . Charleston
**Duncan, C. S. . . . . Huntington
Dunlap, J. L. . . . . Nitro
**Dunman, L. E. . . . . Gary
**Dunn, Edward T., Jr. . South Charleston
*Dunn, Hugh . . . . . Richwood
Dunn, R. H. . . . . South Charleston
DuPuy, S. S. . . . . Scarbro
Dyer, Allen M., Jr. . . . . Pine Grove
Dyer, N. H. . . . . Charleston
Dyer, V. L. . . . . Petersburg

— E —

Eagle, A. B. . . . . Martinsburg
*Eakin, B. W. . . . . Tams
Eakle, J. C. . . . . Sutton
*Eakle, O. O. . . . . Sutton
**Ealy, D. L. . . . . Moundsville
Easley, G. W. . . . . Williamson
Easton, J. F. . . . . Romney
**Echols, J. E. . . . . Richwood
Echols, W. E. . . . . Richwood
**Eckmann, Leonard . . . . . South Charleston
Edwards, Hugh S. . . . . Beckley
Edwards, R. H. . . . . Welch
Elkin, W. Paul . . . . . Charleston
Elliott, Boyce . . . . . Maybeury
Engelfried, C. H. . . . . Charleston
Erwin, Frank L. . . . . Burnwell
**Escue, H. M. . . . . Charleston
*Esker, H. H. . . . . Clarksburg
**Esposito, Albert C. . . . . Huntington
**Evans, E. J. . . . . Richmond, (Va.)
**Evans, G. F. . . . . Clarksburg
Evans. G. P. . . . . Iaeger
**Evans, G. T. . . . . Idamay
Evans, H. P. . . . . Keystone
Eves, Frank P. . . . . Charleston

— F —

Falconer, H. S. . . . . Fairmont
Farley, H. H. . . . . Logan
**Farley, James A. . . . . Delbarton
**Farrell, M. E. . . . . Clarksburg
Farri, L. B. . . . . Wheeling
Fawcett, Ivan . . . . . Wheeling

**Feldman, John L. . . . . New York, (N. Y.)
Fenton, Clement C. . . . . Morgantown
Ferguson, J. W. . . . . Kenova
Ferrell, A. D. . . . . Lewisburg
**Ferrell, R. M. . . . . Roanoke, (Va.)
**Fisher, Charles F. . . . . Clarksburg
Fisher, H. H. . . . . Dunbar
**Fisher, James E. . . . . New Cumberland
*Fisher, M. O. . . . . Parkersburg
Fisher, Earl L. . . . . Gassaway
Fisher, Ralph M. . . . . Weston
Fisher, R. W. . . . . Morgantown
**Fleming, H. C. . . . . Fairmont
**Fleming, Robert . . . . . Morgantown
Fleshman, C. M. . . . . Clendenin
Flick, W. A. . . . . Keyser
**Flood, R. E. . . . . Hollidays Cove
Flowers, Earl N. . . . . Clarksburg
Focer, R. L. . . . . Weirton
Folk, John . . . . . Bridgeport
Folsom, T. G. . . . . Huntington
Ford, C. P. S. . . . . Huntington
**Ford, J. C. . . . . Huntington
Ford, Ralph J. . . . . Spencer
Ford, Scott A. . . . . Beckley
Forman, Worth B. . . . . Buckhannon
Fortney, F. D. . . . . Beckley
*Fortney, Mary J. F. . . . . Hundred
Fowlkes, R. H. . . . . Bluefield
Fox, J. F. . . . . Bluefield
**Fox, M. R. . . . . Charles Town
Fox, P. R. . . . . Bluefield
Frame, R. I. . . . . Sharples
Frank, Ludwig . . . . . Charleston
Frazier, Claude . . . . . Winona
Frazier, J. W. . . . . Charleston
Frazier, Ralph . . . . . Fayetteville
**Freeman, James A., Jr. . . . . West Union
**French, A. M. . . . . Logan
**Friedman, Norman . . . . . Cleveland, (O.)
**Fry. S. Oscar . . . . . Charles Town
**Frye, Robert R. . . . . Mannington
**Fugate, R. C. . . . . Bluefield

— G —

**Gage, E. L. . . . . Bluefield
Gallagher, Mary V. . . . . Charleston
**Gang, L. B. . . . . Huntington
Garrett, B. D. . . . . Kenova
Garrett, T. F. . . . . Sprague
**Gaskel, Jerome C. . . . . Williamson
**Gates, E. O. . . . . Welch
**Gatherum, Robert S., Jr. . . . . Bluefield
Gaydosh, Michael . . . . . Wheeling
**Gaydosh, M. A., Jr. . . . . Wheeling
Gaynor, H. E. . . . . Parkersburg
**Gaynor, John S. . . . . Wheeling
Genge, Cole D. . . . . Huntington
**Genin, F. G. . . . . Clarksburg
**Gerchow, Keith E. . . . . Morgantown
Gerhardt, Paul R. . . . . Charleston
Gerlach, Earl B. . . . . Huntington
**German, John D. . . . . Huntington
Gibson, A. P. . . . . Huntington
Gibson, E. D. . . . . Coalwood
**Giffin, T. C. . . . . Keyser
Gill, R. D. . . . . Wheeling
**Gilman, Joseph . . . . . Clarksburg
Gilmore, J. W. . . . . Wheeling
Gilmore, M. A. . . . . Parkersburg
**Given, A. J. . . . . Rensford
Glass, Earl F. . . . . Wheeling
Glass, H. R. . . . . Charleston
Glass, Wm. J. . . . . Sissonville
**Glassman, Dan . . . . . Charleston
**Glenn, Marshall . . . . . Charles Town
Glover, A. E. . . . . Madison
Glover, V. L. . . . . Martinsburg

**Gocke, Jack T. Clarksburg
Gocke, Thomas V. Clarksburg
Gocke, Wm. T. Clarksburg
Godbey, John Q. Sophia
**Godbey, John R. Charleston
Goff, E. T. Parkersburg
**Goff, S. W. Parkersburg
Goff, Wm. R. Parkersburg
Golden, B. I. Elkins
**Golz, H. H. Clarksburg
Goodall, F. C. Princeton
**Goodhand, Charles L. Parkersburg
**Goodman, Sander Huntington
**Goodwin, F. H. Bluefield
Goodwin, Thomas M. Elkins
Gordon, A. T. Spencer
Gordon, P. L. Powellton
**Gordon, T. B. New Martinsville
Gott, E. F. Charleston
**Grace, James E. Cabin Creek
**Graham, Paul V. Wheeling
Grant, Sylvia S. Park
**Gray. James H. Ward
Gray. P. L. Elkins
**Greenberg, Ralph C. New York, (N. Y.)
**Greene, Joseph L. Logan
Greeneltch, D. E. Wheeling
Greer, C. C. Clarksburg
Grimm, Robert B. Cameron
Grimm, Wilson O. Huntington
Grisinger, G. F. Charleston
Grove, J. B. Petersburg
**Grove, Thomas L. Huntington
†Grove, Owen A. Charleston
Gunning, Harold D. Ronceverte
Guthrie, J. A. Huntington
Guthrie, J. K. Martinsburg
Gwinn, G. E. Beckley

— H —

**Hager, James L. Charleston
**Haislip, C. A. Grafton
Haislip, N. L. Wheeling
**Hale, Daniel Princeton
**Haley, John B. Charleston
**Haley, Peter A. II Charleston
**Hall, C. B. Charleston
*Hall, C. H. Shinnston
Hall, Joseph E. Newell
**Hall, Sobisca S. Clarksburg
Hall, W. C. Welch
Halloran, L. M. Beckley
Halloran, R. O. Charleston
**Haltom, W. L. Martinsburg
Hamilton, D. D. Mannington
*Hamilton, E. M. Belington
Hamilton, O. L. Huntington
**Hamilton, Richard St. Mary's
Hamilton, Wilson P. Chapmanville
Hamrick, R. E. Charleston
Hamrick, R. S. St. Albans
**Hancock, H. J. Sedley, (Va.)
Hanifan, R. K. Clarksburg
**Hanna, Michael I. Holden
Hardesty, W. L. Charleston
Hardmen, J. Carney Miami, (Fla.)
*Hardwick, Richard Huntington
Harkelroad, F. S. Beckley
Harless, L. R. Gauley Bridge
Harless, W. F. Madison
**Harloe, W. M. Princeton
Harmon, Paul H. Huntington
Harper, C. A. Clendenin
Harper, O. M. Clendenin
Harper, W. G. Elkins
Harpfer, Harold C. Wheeling
Harris, T. G. West Milford
Harris, T. L. Parkersburg
**Harrison, C. S. Clarksburg
**Harsha, Gene M. Sistersville
Hartle, G. E. Wardensville
Hartman, E. C. Parkersburg
**Hartman, I. F. Buckhannon
Hartwig, W. B. Wheeling
Harwood, I. R. Huntington
**Hash, John W. Charleston
Hassig, Donald G. Middlebourne
Hatfield, D. D. Yukon
Hatfield, H. D. Huntington
Hatfield, R. C. Oceana
Hatton, Don V. Williamson
*Hawes, Charles M. Huntington
Hayes, E. R. Chelyan
Haynes, H. H. Clarksburg
Hays, Henry C. Williamson
Hazlett, James C. Wheeling
**Heagarty, John P. Layland
Hedrick, E. H. Beckley
**Hedrick, G. C., Jr. Beckley
Heffner, G. P. Charleston
**Hegner, H. L. Wellsburg
Heironimus, T. W., Jr. Grafton
Heiskell, E. F. Morgantown
Helmick, J. P. Fairmont
Hendrix, N. B. Martinsburg
Henson, E. B. Charleston
*Hereford, W. D. Huntington
Hershey, C. D. Wheeling
**Hess, D. S. Shinnston
*Hicks, I. C. Huntington
Hickson, E. W. Fairmont
Higginbotham, Upshur Bluefield
Higgins, A. W. Wheeling
Hill, David H. Madison
*Hill, E. A. Greenwood
Hill, G. D. Camden-on-Gauley
Hill, L. O. Camden-on-Gauley
**Hills, H. M., Jr. Charleston
Hines, N. F. Huntington
*Hinsdale, Guy Charlottesville, (Va.)
Hirschman. I. I. Huntington
Hively, H. D. Parkersburg
Hobbs, M. L. Fairmont
Hodges, F. C. Huntington
Hodges, G. G. Mt. Hope
Hoffman, C. A. Huntington
Hoffman, W. E. Charleston
Hoitash, F. J. Huntington
Hoke, L. I. Nitro
Holcombe, V. E. Charleston
*Holland, C. L. Fairmont
Holland, E. A. Fairmont
Holley, C. J. Wheeling
**Holmes, Albert W. Hinton
**Holmes, E. B. Parkersburg
Holroyd, F. J. Princeton
Hoover, S. R. Charleston
Hornbrook, K. M. New Martinsville
Horton, E. W. Bluefield
Hosmer, D. L. Bluefield
**Houck, C. L. Carbon
Houck, M. R. Carbon
Houser, L. G. Beckley
**Hovis, Logan Parkersburg
Howard, C. L. Hinton
Howell, H. H. Madison
Howell, W. H. Morgantown
**Hresan, M. G. Oak Hill
Hubbard, J. E. Huntington
Hudgins, A. P. Charleston
*Hudkins, O. L. Weston
**Huffman, J. C. Buckhannon
Huffman, T. T. Keyser
Huffman, W. W. Gassaway
Hughes, C. R. Bluefield
*Hume, W. W. Beckley
**Humphrey, E. J., Jr. Huntington
**Humphries, R. T. Clarksburg
Hunter, E. H. Webster Springs
Hunter, J. Ross Charleston
**Hunter, Jack W. Webster Springs
*Hunter, R. L. Madison
**Hunter, W. B. Huntington
Hutchison, J. L. Huntington
Hutchinson, T. H. Malden
**Hyman, B. M. Montgomery

— I —

Ireland, R. A. Charleston
Irvine, G. B. Williamson
Irwin, G. G. Charleston

— J —

Jabaut, S. W. Shinnston
Jackson, C. C. East Rainelle
Jackson, C. F. Charleston
Jackson, H. M. Brooklyn
Jackson, Kenna Clarksburg
**Jacob, S. S. Bethany
James, Wendell E. Elkins
Jamison, Frank R. Logan
Jamison, W. P. Oakland, (Md.)
**Jarrell, C. A. Charleston
*Jarrell, Dennis B. Beckley
Jarrell, K. M. Beckley
**Jarrett, J. N. Oak Hill
**Jarrett, J. T. Charleston
Jarrett, L. A. Dunbar
**Jarrett, M. F. Charleston
Jarvis, C. C. Clarksburg
Jaskiewicz, C. F. Huntington
*Jeffers, G. D. Parkersburg
Jeffreys, E. M. Philippi
Jenkins, J. J. Farmington
Jenkins, J. J., Jr. Farmington
Johnson, C. E. Morgantown
Johnson, G. D. Huntington
*Johnson, G. W. McAlpin
*Johnson, H. R. Fairmont
Johnson, J. E. Stone, (Ky.)
Johnson, P. C. Belle
**Johnson, Philip Fairmont
Johnson, S. B. Franklin
Johnson, W. P., Jr. Arthurdale
Johnston, C. F. Bluefield
Johnston, W. L. Princeton
Jones, A. M. Parkersburg
Jones, A. L. Wheeling
Jones, A. S. Huntington
**Jones, E. E., Jr. Mt. Hope
Jones, E. L. Wheeling
Jones, J. P. Pennsboro
Jones, L. P. Pennsboro
**Jones, Paul A. Huntington
**Jones, R. Harold Fairmont
**Jones, Ralph J. Charleston
**Jordan, E. V. Charleston
Joseph, N. K. Wheeling
Joseph, Wilda S. S. Wheeling
Judy, W. J. Elkins
**Justice. E. L. Hollidays Cove

— K —

Kahle, W D. Glen Alum
Kalbfleisch, Wm. K. Wheeling
Kappes, Wm. C. Huntington
Kaufman, E. L. McMechen
Kechele, D. V. Bluefield
Keesor, C. H. Wheeling
Keister, H. S. Fairmont

† In Military Service
* Honorary Member
** Released from Military Service

Keith, T. W. . . . . Harrisville
**Keller, F. D. . . . . Parkersburg
Kelley, A. O. . . . . Wallace
Kelly, V. L. . . . . Bluefield
*Kemper, A. J. . . . . Clarksburg
Kerr, J. C. . . . . Clarksburg
Kessel, C. R. . . . . Ripley
Kessel, H. Clark . . . . . Beckley
**Kessel, Ray . . . . . Charleston
**Kessel, Russel . . . . . Charleston
Ketchum, D. P. . . . . Huntington
Ketchum, R. D. . . . . Charleston
Khorozian, K. G. . . . . Pineville
**Kilmer, J. H. . . . . Martinsburg
Kimble, J. U. . . . . Grafton
King, C. E. . . . . Petersburg
King, E. L. . . . . Beckley
King, H. V. . . . . Morgantown
**King, L. S. . . . . Philippi
**King, O. G. . . . . Bluefield
*King, W. P. . . . . Weston
King, Wm. E. . . . . Morgantown
*Kinney, C. L. . . . . Idamay
**Kirby, E. W., Jr. . . . . Bluefield
Kirk, E. H. . . . . Richlands, (Va.)
*Kirkpatrick, H. L. . . White Sulphur Spgs.
**Kizinski, A. B. . . . . Logan
Klausman, W. A. . . . . Anjean
Klug, T. M. . . . . Wheeling
**Klumpp, J. S. . . . . Huntington
**Klyza, S. J. . . . . Clarksburg
**Knapp, J. L. . . . . Weston
Koenigsberg, Max . . . . . Charleston
Kraft, C. D. . . . . Parkersburg
Krimsky, Joseph . . . . . Huntington
**Kroll, P. G. . . . . Mt. Carmel, (Pa.)
**Kruger, I. M. . . . . Logan
Kuhn, Beatrice H. . . . . Charleston
Kuhn, Harold H. . . . . Charleston

— L —

Ladwig, O. W. . . . . Clarksburg
Laird, T. Kerr . . . . . Montgomery
Laird. Wm. R. . . . . Montgomery
**Lambert, L. R. . . . . Fairmont
Lampton, A. K. . . . . Gallagher
Lance, V. L. . . . . Charleston
Langfitt, F. V. . . . . Clarksburg
Lanham, A. G. . . . . Ronceverte
LaPrade, F. E. . . . . Tampa, (Fla.)
Lattimer, R. D. . . . . Parkersburg
Law, H. D. . . . . Charleston
Lawless, J. J. . . . . Morgantown
Lawson, A. F. . . . . Weston
Lawson, C. S. . . . . Fairmont
Lawson, J. C. . . . . Williamson
Lawson, L. W. . . . . Logan
*Lawson, S. B. . . . . Logan
**Lawson, W. T. . . . . Fairmont
*Leahy, W. J. . . . . Mannington
Leach, J. G. . . . . Quinwood
Leef, J. L. . . . . Richwood
**Leeson, L. R. . . . . Parkersburg
**Lehman, J. F. . . . . Kingwood
Lembright, J. F. . . . . Clarksburg
Lemon, C. W. . . . . Lewisburg
Lenox, John E. . . . . Philippi
**Leonard, C. L. . . . . Elkins
*Lepper, D. B. . . . . Bluefield
Levy, Fritz . . . . . Huntington
Lewellyn, R. H. . . . . Wheeling
Lewis, A. C. . . . . Seth
**Lewis, C. E. . . . . Charleston
Liggett, B. L. . . . . Mill Creek

† In Military Service
* Honorary Member
** Released from Military Service

**Lilly, Goff P. . . . . Charleston
Lilly, J. P. . . . . Charleston
**Lincicome, Robt. . . . . Parkersburg
Linger, R. B. . . . . Clarksburg
Link, Vaughan H. . . . . Shepherdstown
Litsinger. E. A. . . . . Charleston
**Little, H. G. . . . . Wheeling
Litton, A. C. . . . . Charleston
Long, A. E. . . . . Weston
Long, F. C. . . . . Pt. Pleasant
Louft, R. R. . . . . Charleston
Lough, D. H. . . . . Clarksburg
Lovas, E. E. . . . . Berwind
Love, R. W. . . . . Moorefield
**Lovejoy, U. C. . . . . Charleston
Luikart, J. H. . . . . Moundsville
**Lukens, R. W. . . . . Wheeling
Lusher, H. V. . . . . Huntington
**Lutz, Athey R. . . . . Parkersburg
**Lutz, John E. . . . . Charleston
Lyon, F. K. . . . . Parsons
†Lyon, G. M. . . . . Huntington
Lyon, L. A. . . . . Wheeling
Lyons, J. W. . . . . Holden

— M —

Mace, V. E. . . . . Charleston
MacGregor, D. A. . . . . Wheeling
*MacKenzie, A. R. . . . . Huntington
MacKey, W. K. . . . . Huntington
**MacNamara, R. J. . . . . Charleston
Madera, W. L. . . . . Morgantown
Mahan, Charles . . . . . Morgantown
Mahood, C. F. . . . . Alderson
**Mallamo, J. T. . . . . Fairmont
**Mamick, Stephen . . White Sulphur Spgs.
†Mangus, J. E. . . . . Pineville
**Mantz. T. P. . . . . Charleston
Markell, J. I. . . . . Princeton
Marple, F. O. . . . . Huntington
Marquis, Henrietta . . . . . Charleston
**Marquis, J. N. . . . . Charleston
Martin, F. E. . . . . New Martinsville
Martin, G. O. . . . . Martinsburg
Martin, H. C. . . . . East Rainelle
**Martin, J. E. . . . . Elkins
**Martin, W. B. . . . . Huntington
Maskrey, F. R. . . . . Wheeling
Matney, T. G. . . . . Peterstown
Matson, F. L. . . . . Wellsburg
**Matthews, L. B. . . . . Charleston
Matthews, W. E. . . . . Huntington
Maxwell, G. R. . . . . Morgantown
Maxwell, J. S. . . . . Fairmont
Maxwell, M. H. . . . . Moorefield
Mays, W. C. . . . . Stanaford
McBee, T. Jud . . . . . Morgantown
McCarty, J. L. . . . . Berwind
**McCauley, E. W. . . . . Bluefield
McClanahan, Rose H. . . . . Charleston
McClellan, E. E. . . . . Stollings
McClees, J. E. . . . . Williamson
McClellan, G. O. . . . . West Hamlin
McClellan, W. T. . . . . Ethel
McClintic, C. F. . . . . Williamsburg
McClue, A. E. . . . . Dunbar
McClung, James . . . . . Richwood
**McClung, James E. . . . . Richwood
**McClung, James R. . . . . Clarksburg
**McClung, W. D. . . . . Richwood
McClure, U. G. . . . . Charleston
McClure, W. T. . . . . Wheeling
McCoy, A. V. . . . . Elm Grove
McCoy, C. G. . . . . Elm Grove
**McCracken, W. B. . . . . Huntington
McCurdy, J. A. . . . . Wheeling
**McCuskey, J. F. . . . . Clarksburg
**McCuskey, P. L. . . . . Wheeling

McCuskey, W. C. D. . . . . Wheeling
McElfresh, E. V. . . . . Pt. Pleasant
McFarland, W. F. . . . . Keyser
McFerrin, S. A. . . . . Renick
McFetridge, S. Elizabeth . Shepherdstown
McGehee, M. W. . . . . Huntington
McGraw, Ralph . . . . . Follansbee
McGuire, John . . . . . Bluefield
McGuire, John P. . . . . Clarksburg
**McIlvain, W. E. . . . . Moundsville
**McIntire, T. S. . . . . Kingwood
McKenzie, John E. . . . . Beckley
McLain, W. H. . . . . Wheeling
†McLane, R. A., Jr. . . . . Masontown
McLaughlin, Ralph S. . . . . Charleston
*McMillan, W. A. . . . . Charleston
McMillan, W. O. . . . . Charleston
McMullen, James P. . . . . Wellsburg
**McNeer, B. W. . . . . Hinton
McNeer, F. L. . . . . Hinton
**McNinch, E. R. . . . . Weirton
McPherson, H. D. . . . . Eskdale
Megahan, Burke . . . . . Elm Grove
Megahan, C. R. . . . . Follansbee
Meier, John S. . . . . Wheeling
Mendeloff, M. I. . . . . Charleston
Merriam, C. G. . . . . Page
Meyer, Seymour W. . . . . Elkins
Mican, H. M. . . . . Charleston
Michael, G. H. . . . . Parsons
Milhoan, A. W. . . . . Nitro
Miller, Blanche B. . . . . Eglon
**Miller, F. R. . . . . Morgantown
Miller, G. R. . . . . Fairview
Miller, H. C. . . . . Eglon
Miller, J. L. . . . . Thomas
*Miller. Roy Ben . . . . . Parkersburg
**Miller, R. F. . . . . Paden City
Millman, T. H. . . . . Richwood
Mills, L. H. . . . . Clarksburg
Mitchell, O. F. . . . . Franklin
*Mitchell, R. C. . . . . Sophia
Miyakawa, George . . . . . Charleston
**Moore, B. J. . . . . Morgantown
Moore, Dana T. . . . . Parkersburg
Moore, F. J. . . . . Killarney
Moore, John M. . . . . Wheeling
Moore, J. Hallock . . . . . Huntington
Moore, L. J. . . . . Huntington
Moore, M. A. . . . . Longacre
Moore, M. B. . . . . Huntington
Moore, Phoebia G. . . . . Mannington
*Moore, S. G. . . . . Harper's Ferry
Moore, T. W. . . . . Huntington
Moran, W. G., Jr. . . . . Cranberry
Morgan, G. V. . . . . Fairmont
Morison, G. P. . . . . Charles Town
Morison, O. N. . . . . Charleston
**Morris, J. F. . . . . Huntington
Morrison, G. C. . . . . Huntington
Morrison, M. T. . . . . Sutton
Moser, C. Y. . . . . Baltimore, (Md.)
Moser, L. A. . . . . Charleston
Moser, W C. . . . . St. Petersburg, (Fla.)
Moyers, B. F. . . . . Matthias
Moyers, E. D. . . . . Norton
†Muller, H. E. . . . . Huntington
**Mullins, G. R. . . . . Logan
**Murphy, F. B. . . . . Philippi
**Murphy, J. H. . . . . Wheeling
Murry, J. H. . . . . Vivian
**Myers, E. E. . . . . Philippi
Myers, Hu C. . . . . Philippi
**Myers, Junior . . . . . Philippi
Myers, K. J. . . . . Philippi
Myles, W. E. . . . . White Sulphur Spgs.
Mynes, Leo H. . . . . Charleston

— N —

Nale, T. W. ..... New York, (N. Y.)
Neal, L. E. ..... Clarksburg
Neal, W. E. ..... Huntington
**Neal, W. L. ..... Huntington
Neale, R. C. ..... Bluefield
**Nefflen, L. H. ..... Elkins
Nelson, G. O. ..... Nitro
Nelson, William ..... Richwood
Newcomb, J. A. ..... Keyser
**Newhouse, N. H. ..... Reading, (Pa.)
Newman, Ross E. ..... Beckley
Newman, R. C. ..... Spencer
**Nicholson, B. B. ..... Parkersburg
Niedermeyer, J. W. ..... Charleston
**Niehaus, A. J. ..... Triadelphia
**Nolan, L. E. ..... Monroe, (La.)
Nolte, A. E. ..... Wheeling
Norris, L. D. ..... Fairmont
Nunnally, W. O. ..... Fairmont
Nutter, E. V. ..... Gauley Bridge
**Nutter, P. D. ..... Lancaster, (Pa.)
Nutter, R. J. ..... Clarksburg

— O —

Oates, Max O. ..... Martinsburg
Oates, T. K. ..... Martinsburg
**O'Dell, R. N. ..... Charleston
Offner, J. E. ..... Fairmont
*Ogden, C. R. ..... Clarksburg
Orr, W. W. ..... Rachel
**Osterman, A. L. ..... Wheeling
Otte, R. C. ..... Wellsburg
Owen, Thelma V. ..... Huntington
*Owens, H. K. ..... Elkins
Owens, W. T. ..... Clarksburg

— P —

**Pace, L. J. ..... Princeton
Page, B. L. ..... Buckhannon
Page, J. E. ..... Clarksburg
**Palmer, D. W. ..... Wheeling
**Palmer, G. W. ..... Charleston
Palmer, J. B. ..... Wellsburg
Parker, W. H. ..... Braeholm
Parks, C. L. ..... Fairmont
**Parks, S. W. ..... Fairmont
Parsons, W. J. ..... Huntington
Patterson, J. L. ..... Holden
Pauley, D. F. ..... Jeffrey
Pearcy, C. L. ..... Salem
Peck, E. M. ..... Charleston
Peck, J. C. ..... Moundsville
Peck, R. S. ..... Cannelton
Peery, C. E. ..... Majestic, (Ky.)
Pell, E. N. ..... Wheeling
Pence, G. L. ..... Hinton
Pence, R. E. ..... South Charleston
Pendleton, Edward ..... Clarksburg
Penn, F. H. ..... Mullens
**Perilman, W. S. ..... Wheeling
**Peskoe, L. Y. ..... Louisville. (Ky.)
Peter, B. K. ..... Beckley
Peters, I. T. ..... Princeton
**Peters, J. T. ..... South Charleston
**Peterson, Heyes ..... Wheeling
**Peterson, V. L. ..... Charleston
Petty, C. W. ..... Hartford
Phillips, Earl S. ..... Wheeling
Phillips, Edward M. ..... Wheeling
**Phillips, Edward S. ..... Wheeling
Phillips, G. W. ..... Morgantown
Phillips, H. T. ..... Wheeling
Phillips, R. W. W. ..... Wheeling
*Phillips, S. H. ..... St. Albans
**Pickar, D. N. ..... Wheeling
Pickens, J. K. ..... Denver, (Col.)
**Pickett, J. C. ..... Morgantown
Ping, E. C. ..... Clarksburg
Pletcher, R. O. ..... Lost Creek
Plymale, C. H. ..... Huntington
Point, W. W. ..... Charleston
**Polan, C. M. ..... Huntington
**Polen, F. E. ..... Hollidays Cove
Poling, Owen ..... Mason
**Politano, V. A. ..... Milton
**Pollock, B. H. ..... Huntington
**Polsue, W. C. ..... Charleston
Pomputius, W. F. ..... Helen
Poole, A. ..... West Union
Porter, W. J. ..... Wayne
**Porterfield, M. H. ..... Martinsburg
Post, A. T. ..... Clarksburg
Post, C. O. ..... Clarksburg
**Post, D. M. ..... Morgantown
Post, S. H. ..... Volga
Potter, F. J. ..... Parkersburg
Powell, C. W. ..... Charleston
**Powell, L. L. ..... Huntington
Power, C. G. ..... Martinsburg
Prather, F. G. ..... Asheville, (N. C.)
Preiser, Philip ..... Charleston
Preston, D. G. ..... Lewisburg
Price, A. M. ..... Madison
Price, R. B. ..... Charleston
Price, W. H. ..... Chattaroy
**Priddy, N. D. ..... Ravenswood
Pride, C. B. ..... Morgantown
Pride, Maynard ..... Morgantown
Prillaman, P. E. ..... Ronceverte
Pronko, M. J. ..... (Texas)
Prunty, S. M. ..... Parkersburg
Puckett, B. F. ..... Oak Hill
**Purpura, A. J. ..... Wheeling
**Pushkin, Willard ..... Charleston
Putschar, W. G. J. ..... Charleston
Pyles, J. W. ..... New Martinsville

— Q —

Quimby, W. A. ..... Wheeling
**Quick, James C. ..... Clendenin
Quincy, F. B. ..... Williamson

— R —

**Ralston, J. G. ..... Clarksburg
Ralsten, M. M. ..... Beckley
Ramage, C. M. ..... Fairmont
**Randolph, E. B. ..... Lost Creek
**Rankin, J. O. ..... Wheeling
Rardin, W. H. ..... Beckley
Ratcliffe, G. A. ..... Huntington
Read, B. J. ..... Welch
Reaser, E. F. ..... Huntington
Reed, R. J. ..... Wheeling
Reed, R. J., Jr. ..... Wheeling
Reed, T. G. ..... Charleston
**Reel, F. C. ..... Charleston
Reeves, J. N. ..... Charleston
Repass, J. C. ..... Lumberport
**Revercomb, P. H. ..... Charleston
Reynolds, C. J. ..... Bluefield
Reynolds, C. O. ..... Huntington
Reynolds, O. E. ..... Huntington
Reynolds, O. S. ..... Franklin
**Rich, H. A. ..... Morgantown
Richmond, J. E. ..... Weirton
Richmond, L. C. ..... Milton
**Richmond, Fred W. ..... Beckley
Ricketts, J. E. ..... Huntington
Rife, J. W. ..... Kenova
Rigas, Geo. S. ..... Weirton
†Riheldaffer, W. H. ..... Romney
Riley, R. M. ..... Clarksburg
*Riley, W. M. ..... Lillybrook
Rinehart, A. B. ..... Corpus Christi, (Tex.)
Ritter, D. W. ..... Hinton
Ritter, E. E. ..... Salem
Ritter, H. H. ..... Charleston
Rivers, D. G. ..... Gilliam
**Roberts, D. R. ..... Elkins
Roberts, R. W. ..... Man
Robertson, G. C. ..... Charleston
Robertson, H. L. ..... Charleston
*Robertson, W. B. ..... Kearneysville
Robertson, W. S. ..... Charleston
Robins, J. E., Jr. ..... Charleston
Robinson, J. H. ..... Charleston
Rogers, F. B. ..... Fairmont
*Rogers, J. G. ..... Parkersburg
Rogers, R. O. ..... Bluefield
Rogers, W. F. ..... Parkersburg
*Rohr, C. B. ..... Alum Bridge
Rohr, J. U. ..... Charleston
Romine, C. C. ..... Morgantown
Romino, J. D. ..... Fairmont
Rose, E. E. ..... Huntington
Rose, G. W. ..... Clarksburg
*Rose, L. O. ..... Parkersburg
**Rossman, W. B. ..... Charleston
*Round, F. L. ..... Holden
Rowan, W. S. ..... Logan
Rowley, W. N. ..... Huntington
Ruark, W. T. ..... Beckley
Rucker, J. E. ..... Charleston
Rusmisell, J. A. ..... Buckhannon
**Rusmisell, J. A., Jr. ..... Buckhannon
Rutherford, A. G. ..... Huntington

— S —

St. Clair, C. T., Jr. ..... Bluefield
St. Clair, W. H. ..... Bluefield
St Clair, W H., Jr. ..... Bluefield
Salkin, David ..... Hopemont
Sammon, W. P. ..... Wheeling
Sanner, J. E. ..... Parsons
**Santer, M. A. ..... Parkersburg
Sauder, H. R. ..... Wheeling
Saunders, Irvine ..... Welch
**Scherr, W. B. ..... Morgantown
Schiefelbein, H. T. ..... Welch
*Schoolfield, G. C. ..... Charleston
Schuller, F. X. ..... Huntington
Schwartz, L. O. ..... Weirton
**Scott, C. M. ..... Bluefield
**Scott, C. N. ..... Martinsburg
**Scott, F. A. ..... Huntington
Scott, R. K. ..... Lorado
Scott, W. W. ..... Oak Hill
Seletz, Abraham A. ..... Charleston
Selman, J. H. ..... Charleston
Seltz, Herman ..... Elkins
Seltzer, J. P. ..... Charleston
Shafer, C. F. ..... Grafton
**Shafer, C. W. ..... Spencer
Shafer, E. E. ..... Huntington
Shaffer, H. A. ..... Beckley
*Shaffer, J. S. ..... Montgomery
**Shamblen, E. L. ..... Charleston
**Shanes, H. N. ..... Coalwood
Shanklin, J. R. ..... Bluefield
Shanklin, R. V. ..... Bluefield
**Shaw, D. J. ..... Martinsburg
Shawkey, A. A. ..... Charleston
**Shepherd, E. M. ..... Charleston
Shepherd, W. S. ..... Charleston
**Sheppe, W. M. ..... Wheeling
Sheridan, Richard ..... Parkersburg
*Shirkey, D. W. ..... Montgomery
Shirkey, W. F. ..... Charleston
Shore, E. L. ..... Salem

† In Military Service
* Honorary Member
** Released from Military Service

Shrewsbury, L. E. . . . . Beckley
Sidell, A. R. . . . . Williamstown
Silver, Harry . . . . . Milton
*Simpson, J. N. . . . . Morgantown
Sinclair, M. W. . . . . Bluefield
**Sites, Chas. J. . . . . Parsons
**Skaff, V. S. . . . . Charleston
Skaggs, H. C. . . . . Montgomery
Skaggs, J. S. . . . . Knoxville (Tenn.)
Skaggs, J. W. . . . . Nitro
Skar, S. J. . . . . Davis
Slate, T. A. . . . . Hollidays Cove
Slater, C. N. . . . . Clarksburg
**Sleeth, C. K. . . . . Morgantown
*Sloan, R. M. . . . . Huntington
Slusher, W. C. . . . . Bluefield
Small, M. J. . . . . Parsons
Smith, A. A. . . . . Clay
Smith, B. A. . . . . Spencer
Smith, B. D. . . . . Amherstdale
Smith, C. E. . . . . Terra Alta
**Smith, Claude B. . . . . Charleston
**Smith, C. A. . . . . Raleigh
Smith, G. A. . . . . Montgomery
**Smith, H. W. . . . . New York, (N. Y.)
Smith, H. A. . . . . Madison
**Smith, M. W. . . . . Biloxi (Miss.)
**Smith, R. G. . . . . Columbus (O.)
Smith, T. C. . . . . Slagle
Smith, W. T. . . . . Glenville
Snaith, Theresa O. . . . . Weston
Snedegar, Paul D. . . . . Elkins
Snider, R. J. . . . . Wheeling
*Snyder, George . . . . . Weston
**Sonneborn, R. M. . . . . Wheeling
Souleyret, S. B. . . . . Cabin Creek
**Soulsby, P. C. . . . . Pratt
Sowers, F. F. . . . . Fairmont
Spahr, A. B. . . . . War
Spangler, P. C. . . . . Morganton, (N. C.)
**Spargo, J. E. . . . . Wheeling
Spelsburg, W. W. . . . . Clarksburg
Spencer, L. O. . . . . Fairmont
Spencer, T. N., Jr. . . . . South Charleston
Squire, E. W. . . . . Charleston
**Staats, Charles . . . . . Charleston
**Staats, E. D. . . . . Ripley
Staats, O. M. . . . . Wheeling
**Staats, Roydice . . . . . Cairo
Stallard, C. W. . . . . Montgomery
Stalnaker, Guy . . . . . Glenville
Stanley, L. P. . . . . Charleston
**Starcher, E. H. . . . . Logan
Starcher, R. C. . . . . Ripley
Starkey, A. L. . . . . Hopemont
Starkey, P. C. . . . . Ravenswood
**Stecker, J. F. . . . . Morgantown
Steele, B. W. . . . . Mullens
Steele, H. G. . . . . Bluefield
*Steele, L. E. . . . . Logan
Steenbergen, J. H. . . . . Huntington
Stemmermann, Marguerite . . Huntington
Stemple, Margaret . . . . . Chicago (Ill.)
Stephenson, J. E. . . . . Clarksburg
Stepp, E. P. . . . . Kermit
Stevens, R. J. . . . . Huntington
Stevens, Sarah L. C. . . . . Huntington
**Stevens, W. R. . . . . Bartley
**Stewart, J. K. . . . . Wheeling
Stewart, W. C. . . . . Charleston
**Stiles, H. A. . . . . Huntington
Stoeckel, Catherine R. . . . . Charleston
**Stone, J. E. . . . . Huntington
Stork, A. R. . . . . Logan

† In Military Service
* Honorary Member
** Released from Military Service

Stotts, Roscoe . . . . . Kenova
*Stout, B. M. . . . . Morgantown
Stout, R. D. . . . . Grafton
**Strader, H. B. . . . . White Sulphur Springs
**Strange, W. W. . . . . Huntington
Straub, G. L. . . . . Welch
**Strawn, L. M. . . . . Morgantown
**Strickland, L. N. . . . . Summersville
Striebich, J. A. . . . . Moundsville
Strobel, G. E. . . . . Wheeling
Strother, W. L. . . . . Salem
Stroud, C. G. . . . . Shinnston
Stuart, R. R. . . . . Bluefield
Summers, R. R. . . . . Charleston
Swann, W. C. . . . . Huntington
**Swart, H. A. . . . . Charleston
Swisher, K. Y. . . . . Fairview

— T —

Tabor, J. H. . . . . New York (N.Y.)
Talbott, R. B. . . . . Martinsburg
Tanner, E. M. . . . . Bluefield
Taylor, C. T. . . . . Huntington
**Taylor, H. A. . . . . Mullens
**Taylor, Ewen . . . . . Huntington
Taylor, I. W. . . . . Huntington
Theiss, J. O. . . . . New Martinsville
Thomas, H. V. . . . . Clarksburg
Thomas, M. J. . . . . Huntington
Thomas, Myrtle Marie . . . . . Huntington
**Thompson, C. T. . . . . Morgantown
Thompson, E. B. . . . . Montgomery
Thompson, H. G. . . . . Charleston
Thompson, James . . . . . Morgantown
Thompson, J. B. . . . . Oak Hill
Thompson, J. L. . . . . Weirton
Thoner, J. G. . . . . Wheeling
**Thornhill, W. A., Jr. . . . . Charleston
Thrasher, E. L. . . . . Sistersville
Tieche, A. U. . . . . Beckley
Todd, G. L. . . . . Princeton
**Todd, G. L., Jr. . . . . Princeton
Tomassene, R A. . . . . Wheeling
Tonkin, H. G. . . . . Martinsburg
Torregrosa, M. F. . . . . Ashland
*Trach, J. M. . . . . Fairmont
Trach, J. P. . . . . Fairmont
Traugh, G. H. . . . . Fairmont
Trethaway, S. W. . . . . Wheeling
Trinkle, E. A. . . . . Weston
Trippett, K. H. . . . . Galloway
Trippett, L. H. . . . . Earling
**Trotter, J. H. . . . . Morgantown
Troutman, H. F. . . . . Logan
Tucker, E. B. . . . . Morgantown
Tucker, E. D. . . . . Nutter Fork
Tuckwiller, J. R. . . . . Fairmont
**Tuckwiller, Pat A. . . . . Charleston

— U —

**Ulch, H. W. . . . . Parkersburg
Upchurch, C. T. . . . . Kopperston
**Updike, R. A. . . . . Montgomery

— V —

Vacheresse, Edw., Jr. . . . . Fairmont
Vanhoose, Harold . . . . . Mallory
**Van Horn, K. L. . . . . Fairmont
Van Liere, E. J. . . . . Morgantown
Van Metre, J. L. . . . . Charles Town
Van Metre, R. S. . . . . Huntington
Van Reenan, A. C. . . . . Bluefield
Van Sant, W. L. . . . . Hinton
*Van Tromp, H. O. . . . . French Creek
Vass, T. E. . . . . Bluefield
Vaughan, E. O. . . . . St. Albans
Vaughan, Robert R. . . . . MacBeth
Vaughn, Florien . . . . . Hemphill

**Vaughn, P. E. . . . . Beckley
**Veach, L. T. . . . . Petersburg
Veon, H. H. . . . . Parkersburg
Vermillion, E. E. . . . . Welch
*Vermillion, J. R. . . . . Princeton
**Vermillion, J. S. . . . . Kingsport (Tenn.)
Vermillion, T. U. . . . . Beckley
Vermillion, Uriah . . . . . Athens
Vest, W. E. . . . . Huntington
**Vial, H. R. W. . . . . South Charleston
Vick, C. W. . . . . Jenkinjones
Viehman, A. J. . . . . Lexington (Ky.)
**Vieweg, G. L., Jr. . . . . Wheeling
Viggiano, M. A. . . . . New Martinsville
**Villani, A. J. . . . . Welch
**Voelker, Chris . . . . . Morgantown

— W —

Wade, James L. . . . . Parkersburg
Walden, G. W. . . . . West Hamlin
*Walker, Everett . . . . . Weston
Walker, W. J. . . . . Iaeger
Wall, C. I. . . . . Rainelle
**Wallace, W. A. . . . . Martinsburg
**Walters, J. W. . . . . Toledo (O.)
Walton, L. E. . . . . Pennsboro
Wanger, Halvard . . . . . Shepherdstown
Wanner, A L. . . . . Wheeling
**Ward, H. W. . . . . Columbus (O.)
Warden, Paul P. . . . . Grafton
**Warden, W. P. . . . . Charles Town
**Warman, W. M. . . . . Morgantown
**Warren, J. O. . . . . Welch
Watkins, C. E. . . . . Harvey
**Watkins, D. A. . . . . Buckhannon
Watson, E. E. . . . . Kingwood
Watts, C. N. . . . . Charleston
**Weaver, A. J. . . . . Clarksburg
Webb, J. P. . . . . Huntington
Webb, R. L. . . . . Charleston
Webb, W. S. . . . . Warwood
*Wehner, E. F. . . . . Clarksburg
**Weier, K. E. . . . . Bluefield
**Weiler, H. G. . . . . Wheeling
**Weinstein, Stanley . . . . . Huntington
**Weisman, S. . . . . Parsons
Welton, W. A. . . . . Fairmont
Wetherby, V. L. . . . . Welch
**Wharton, R. H. . . . . Parkersburg
Whisler, H. A. . . . . Clarksburg
Whitaker, L. A. . . . . Weirton
White, R. S. . . . . West Union
White, S. R. . . . . Bruceton Mills
Whiteside, C. T. . . . . Kayford
*Whiteside, W. E. . . . . Parsons
**Whitlock, J. W. . . . . Affinity
Whittlesey, F. R. . . . . Morgantown
**Widmeyer, R. S. . . . . Parkersburg
Wilkerson, W. V. . . . . Prenter
Wilkinson, B. W. . . . . Clarksburg
Wilkinson, D. D. . . . . Wyco
Wilkinson, E. M. . . . . Pineville
Wilkinson, R. J. . . . . Huntington
†Wilkinson, W. R. . . . . Huntington
Williams, J. F., Jr. . . . . Clarksburg
Williams, J. O. . . . . Alderson
Williams, Leonidas . . . . Meadow Bridge
Williams, M. B. . . . . Wheeling
Willis, C. A. . . . . Clarksburg
Willis, C. G. . . . . Huntington
Wilson, A. A. . . . . Charleston
**Wilson, Arnold . . . . . Pasadena (Tex.)
Wilson, I. O. . . . . Highcoal
Wilson, J. E. . . . . Clarksburg
**Wilson, J. E., Jr. . . . . Clarksburg
**Wilson, P. R. . . . . Piedmont
Wilson, W. B. . . . . Charleston
*Wilson, W. H. . . . . St. Albans

Wise, E. D. ... Fairmont
*Wise, S. D. H. ... Parkersburg
Wolpert, Milton ... Chester
Wolverton, J. H. ... Piedmont
**Wolverton, James H., Jr. ... Piedmont
Woodall, R. E. ... Charleston
Woodford, J. R. ... Philippi
**Woodford, T. L. ... Belington
**Woofter, A. C. ... Parkersburg
Work, W. F. ... Charleston
**Wornal, L. S. ... Shinnston
Wray, E. B. ... Stotesbury
Wright, C. B. ... Huntington
Wright, E. B. ... Clarksburg
*Wright, E. L. ... Parkersburg
**Wright, W. B. ... Clarksburg
*Wriston, Robert ... Beckley
*Wylie, C. B. ... Morgantown
Wylie, R. M. ... Huntington
**Wylie, Ward ... Mullens

— Y —

**Yeager, W. R. ... Parkersburg
Yoho, S. F. ... Moundsville
Yost, H. R. ... Fairmont
Yost, J. W. ... Princeton
Yost, Joe ... Fairmont
Yost, Paul ... Fairmont
Young, W. B. ... Northfork
**Yurko, Anthony ... Hollidays Cove

— Z —

Zando, S. G. ... Williamson
**Zepp, Andrew ... Martinsburg
**Zinn, L. D. ... Clarksburg
Zinn, R. H. ... Hundred
Zsoldos, F. J. ... Glen Rogers
Zubak, M. F. C. ... Wheeling

1947 ROSTER OF MEMBERS

(By Component Societies)

BARBOUR—RANDOLPH—TUCKER

*Bosworth, J. L. ... Elkins
Burke, C. P. ... Thomas
**Bush, Kyle ... Philippi
Butt, A. P. ... Elkins
**Condry, R. J. ... Elkins
†Conrad, H. A. ... Elkins
**DiCello, A. J. ... Elkins
Golden, B. I. ... Elkins
Goodwin, T. M. ... Elkins
Gray, P. L. ... Elkins
*Hall, C. H. ... Shinnston
*Hamilton, E. M. ... Belington
Harper, W. G. ... Elkins
James, Wendell E. ... Elkins
Jeffreys, Edna M. ... Philippi
**King, L. S. ... Philippi
Lenox, John E. ... Philippi
**Leonard, C. L. ... Elkins
Liggett, B. L. ... Mill Creek
Lyon, F. K. ... Parsons
**Martin, Joseph E. ... Elkins
Meyer, Seymour W. ... Elkins
Michael, G. H. ... Parsons
Miller, J. L. ... Thomas
*Moore, S. G. ... Harper's Ferry
Moyers, Emmet D. ... Norton
**Murphy, Franklin B. ... Philippi
**Myers, E. E. ... Philippi
Myers, H. C. ... Philippi
**Myers, Junior ... Philippi
Myers, K. J. ... Philippi
**Nefflen, L. H. ... Elkins
*Owens, H. K. ... Elkins
**Roberts, Donald R. ... Elkins
Sanner, J. E. ... Parsons
**Seltz, Herman ... Elkins
**Sites, Chas. J. ... Parsons
Skar, S. J. ... Davis
Small, Maurice J. ... Parsons
Snedegar, Paul D. ... Elkins
Tabor, Jack H. ... New York (N.Y.)
Trippett, K. H. ... Galloway
**Weisman, S. ... Parsons
*Whiteside, W. E. ... Parsons
Woodford, J. R. ... Philippi

BOONE

Aliff, J. Paul ... Charleston
**Ballard, O. D. ... Van

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† In Military Service
* Honorary Member
** Released from Military Service

**Woodford, T. L. ... Belington
Barbour, W. L. ... Whitesville
Calfee, W. R. ... Whitesville
Glover, A. E. ... Madison
Harless, W. F. ... Madison
Hill, David H. ... Madison
*Hunter, R. L. ... Madison
Lewis, A. C. ... Seth
Pauley, D. F. ... Jeffrey
Prather, F. G. ... Ashville (N.C.)
Wilson, I. O. ... Highcoal

BROOKE

**Booher, W. T. ... Wellsburg
**Hegner, H. L. ... Wellsburg
**Jacob, S. S. ... Bethany
Matson, F. L. ... Wellsburg
Megahan, C. R. ... Follansbee
McGraw, Ralph ... Follansbee
McMullen, J. P. ... Wellsburg
Otte, R. C. ... Wellsburg
Palmer, J. B. ... Wellsburg

CABELL

Baber, J. H. ... Huntington
**Baer, Thomas B. ... Huntington
Barker, J. F. ... Huntington
**Barrett, Robt. S. ... Huntington
**Beard, H. E. ... Huntington
Beckner, W. F. ... Huntington
Biern, O. B. ... Huntington
Bloss, J. R. ... Huntington
Bobbitt, R. M. ... Huntington
**Boso, Clarence H. ... Huntington
Bourn, W. D. ... Barboursville
Brandabur, J. J. ... Huntington
Brown, B. F. ... Huntington
Brown, F. A. ... Huntington
**Brown, J. R. ... Huntington
*Bruns, W. F. ... Ceredo
**Calvert, R. L. ... Chelyan
Campbell, Orman C. ... Hamlin
†Carr, Joel F. ... Huntington
Chambers, H. D. ... Huntington
Chambers, V. L. ... Huntington
Christian, Leo ... Huntington
**Claiborne, W. L. ... Ansted
Clay, C. Stafford ... Huntington
**Coffey, F. L. ... Huntington
**Conklin, Carl P. ... Huntington
**Cook, J. R. ... Huntington
**Coplin, Robert W. ... Huntington
*Crews, A. W. ... Washington (D.C.)
Cronin, D. J. ... Huntington
Curry, R. H. ... Barboursville
**Daniels, W. F. ... Huntington
**Dobbs, Lee F. ... Huntington
**Dodson, Ross ... Huntington
**Duncan, C. S. ... Huntington
**Esposito, Albert C. ... Huntington
**Evans, Edward J. ... Richmond (Va.)
Ferguson, J. W. ... Kenova
Folsom, T. G. ... Huntington
Ford, C. P. S. ... Huntington
**Ford, J. C. ... Huntington
**Gang, L. B. ... Huntington
Garrett, B. D. ... Kenova
Genge, Cole D. ... Huntington
Gerlach, E. B. ... Huntington
**German, John D. ... Huntington
Gibson, A. P. ... Huntington
**Goodman, Sander ... Huntington
Grimm, W. O. ... Huntington
**Grove, Thomas L. ... Huntington
Guthrie, J. A. ... Huntington
Hamilton, O. L. ... Huntington
Hardman, J. C. ... Miami (Fla.)
*Hardwick, R. ... Huntington
Harmon, Paul H. ... Huntington
Harwood, I. R. ... Huntington
Hatfield, H. D. ... Huntington
*Hawes, C. M. ... Huntington
*Hereford, W. D. ... Huntington
*Hicks, I. C. ... Huntington
Hines, N. F. ... Huntington
Hirschman, I. I. ... Huntington
Hodges, F. C. ... Huntington
Hoffman, C. A. ... Huntington
Hoitash, F. J. ... Huntington
Hubbard, J. E. ... Huntington
**Humphrey, E. J. ... Huntington
**Hunter, W. B. ... Huntington
Hutchison, J. L. ... Huntington
Jaskiewicz, C. F. ... Huntington
Johnson, G. D. ... Huntington
Jones, A. S. ... Huntington
**Jones, Paul A. ... Durham (N.C.)
Kappes, W. C. ... Huntington
Ketchum, Dorsey ... Huntington
**Klumpp, J. S. ... Huntington
Krimsky, Joseph ... Huntington
Levy, Fritz ... Huntington
Lusher, H. V. ... Huntington
†Lyon, G. M. ... Huntington
*MacKenzie, A. R. ... Huntington
Mackey, W. K. ... Huntington
Marple, F. O. ... Huntington
**Martin, W. B. ... Huntington

McClellan, G. O. West Hamlin
**McCracken, Wm. B. Huntington
McGehee, M. W. Huntington
Moore, J. Hallock Huntington
Moore, L. J. Huntington
Moore, M. B. Huntington
Moore, T. W. Huntington
**Morris, John F. Huntington
Morrison, G. C. Huntington
†Muller, H. E. Huntington
Neal, W. E. Huntington
**Neal, W. L. Huntington
Owen, Thelma V. Huntington
Parsons, W. J. Huntington
Plymale, Clarence Huntington
**Polan, Chas. M. Huntington
**Politano, V. A. Milton
**Pollock, Bruce H. Huntington
Porter, W. J. Wayne
Powell, Lucius L. Huntington
Ratcliffe, G. A. Huntington
Reaser, E. F. Huntington
Reynolds, C. O. Huntington
Reynolds, Otis E. Huntington
Richmond, L. C. Milton
Ricketts, J. E. Huntington
Rife, J. W. Kenova
Rose, E. E. Huntington
Rowley, W. N. Huntington
Rutherford, A. G. Huntington
Schuller, F. X. Huntington
**Scott, F. A. Huntington
Shafer, E. E. Huntington
Silver, Harry Milton
*Sloan, R. M. Huntington
Smith, Harry A. Madison
Steenberger, J. H. Huntington
Stemmermann, Marguerite Huntington
Stevens, Richard J. Huntington
Stevens, Sarah L. C. Huntington
**Stiles, H. A. Huntington
**Stone, John Early Huntington
Stotts, Roscoe Kenova
**Strange, W. W. Huntington
Swann, W. C. Huntington
Taylor, C. T. Huntington
**Taylor, Ewen Huntington
Taylor, I. W. Huntington
Thomas, M. J. Huntington
Thomas, Myrtle M. Huntington
Van Metre, R. S. Huntington
Vest, W. E. Huntington
Walden, Geo. W. West Hamlin
Webb, Joseph P. Huntington
**Weinstein, Stanley Huntington
Wilkinson, R. J. Huntington
†Wilkinson, Walter R. Huntington
Willis, C. G. Huntington
Wright, C. B. Huntington
Wylie, R. M. Huntington

CENTRAL WEST VIRGINIA

*Allen, S. P. Coronado Beach (Fla.)
Andrew, H. M. Weston
Brown, E. S. Summersville
*Brown, H. S. Sutton
*Burton, G. M. Weston
*Burton, S. H. Weston
Cofer, J. M. Bergoo
Cooper, E. R. Man
Corder, G. C. Jane Lew
Cutright, R. G. Buckhannon
**Davisson, C. R. Weston

† In Military Service
* Honorary Member
** Released from Military Service

*Deeds, L. W. Buckhannon
**Dillinger, K. A. Weston
*Dodrill, J. B. Webster Springs
*Dunn, Hugh Richwood
Eakle, J. C. Sutton
*Eakle, O. O. Sutton
**Echols, J. E. Richwood
Echols, W. E. Richwood
**Ferrell, R. M. Roanoke (Va.)
Fisher, E. L. Gassaway
Fisher, R. M. Weston
Ford, R. J. Spencer
Forman, Worth B. Buckhannon
**Hartman, Ira F. Buckhannon
Hill, G. D. Camden-on-Gauley
Hill, L. O. Camden-on-Gauley
*Hudkins, O. L. Weston
**Huffman, J. C. Buckhannon
Huffman, W. W. Gassaway
Hunter, E. H. Webster Springs
**Hunter, Jack W. Webster Springs
*King, W. P. Weston
**Knapp, J. L. Weston
Lawson, A. F. Weston
Leef, J. L. Richwood
Long, A. E. Weston
**McClung, James E. Richwood
McClung, James Richwood
**McClung, W. D. Richwood
Millman, T. H. Richwood
Morrison, M. T. Sutton
Nelson, William Richwood
Page, B. L. Buckhannon
*Rohr, C. B. Alum Bridge
Rusmisell, J. A. Buckhannon
**Rusmisell, J. A., Jr. Buckhannon
Smith, W. T. Glenville
Snaith, Theresa O. Weston
*Snyder, George Weston
Stalnaker, Guy Glenville
Trinkle, E. A. Weston
*Van Tromp, H. O. French Creek
*Walker, Everett Weston

DODDRIDGE

**Freeman, James A., Jr. West Union
Poole, A. West Union
White, R. S. West Union

EASTERN PANHANDLE

**Appleby, George S. Martinsburg
**Armentrout, A. W. Martinsburg
Bitner, E. H. Martinsburg
**Clapham, R. E. Martinsburg
Eagle, A. B. Martinsburg
**Fox, M. R. Charles Town
**Fry, S. Oscar Charles Town
**Glenn, Marshall Charles Town
Glover, V. L. Martinsburg
Guthrie, J. K. Martinsburg
**Haltom, W. L. Martinsburg
Hendrix, N. B. Martinsburg
**Kilmer, John H. Martinsburg
Link, Vaughn Shepherdstown
Martin, G. O. Martinsburg
McFetridge, S. Elizabeth Shepherdstown
Morison, G. P. Charles Town
Oates, Max Martinsburg
Oates, T. K. Martinsburg
**Porterfield, M. H. Martinsburg
Power, C. G. Martinsburg
**Shaw, D. J. Martinsburg
Talbott, R. B. Martinsburg
Tonkin, H. G. Martinsburg
Van Metre, J. L. Charles Town

**Wallace, W. A. Martinsburg
Wanger, Halvard Shepherdstown
**Warden, W. P. Charles Town
**Zepp, Andrew Martinsburg

FAYETTE

Bays, A. E. Montgomery
Bilger, F. W. McComas
Bittinger, W. P. Summerlee
*Brugh, B. F. Clearwater (Fla.)
**Butterfield, D. L. Waynesboro (Ga.)
**Cardey, N. L. Los Angeles (Calif.)
Carter, Eugene S., Jr. Montgomery
Corder, O. W. Minden
**Crank, G. O. Clarksburg
Davis, W. B. Parkersburg
**Dickerson, L. A. Oak Hill
**Donelson, Martin, Jr. Philadelphia (Pa.)
Dorsey, C. S. Kingston
Engelfried, C. H. Charleston
**Feldman, John L. New York (N.Y.)
Frazier, Claude Winona
Frazier, Ralph Fayetteville
**Friedman, Norman Cleveland (O.)
Gordon, P. L. Powellton
Harless, L. R. Gauley Bridge
Hodges, G. G. Mt. Hope
**Hresan, M. G. Oak Hill
**Hyman, B. M. Montgomery
Jackson, H. M. Brooklyn
**Jarrett, J. N. Oak Hill
**Jones, E. E., Jr. Mt. Hope
Laird, T. K. Montgomery
Laird, William R. Montgomery
Martin, H. C. East Rainelle
Merriam, C. G. Page
Moore, M. A. Longacre
Moser, L. A. Charleston
**Nolan, L. E. Monroe (La.)
Nutter, E. V. Gauley Bridge
Peck, R. S. Cannelton
**Peskoe, L. Y. Louisville (Ky.)
Puckett, B. F. Oak Hill
Reeves, J. N. Charleston
Scott, W. W. Oak Hill
*Shaffer, J. S. Montgomery
*Shirkey, D. W. Montgomery
Skaggs, H. C. Montgomery
Smith, G. A. Montgomery
**Smith, Hal W. Montgomery
Stallard, C. W. Montgomery
Thompson, E. B. Montgomery
Thompson, J. B. Oak Hill
Troutman, H. F. Logan
**Updike, R. A. Montgomery
Watkins, C. E. Harvey

GREENBRIER VALLEY

Amick, A. E. Lewisburg
Compton, J. W. Ronceverte
Ferrell, A. D. Ronceverte
Gunning, H. D. Ronceverte
*Hinsdale, Guy Charlottesville (Va.)
Jackson, C. C. East Rainelle
*Kirkpatrick, H. L. White Sulphur Springs
Klausman, Wm. A. Anjean
Lanham, A. G. Ronceverte
Leech, J. G. Quinwood
Lemon, C. W. Lewisburg
Mahood, C. F. Alderson
**Mamick, Stephen White Sulphur Springs
Matney, T. G. Peterstown
McClintic, C. F. Williamsburg
McFerrin, S. A. Renick
Myles, W. E. White Sulphur Springs

Preston, D. G. ..... Lewisburg
Prillaman, P. E. ..... Ronceverte
**Strader, H. B. ..... White Sulphur Springs
Wall, C. I. ..... Rainelle
Williams, L. ..... Meadow Bridge

HANCOCK

**Beaumont, G. L. ..... New Cumberland
Bogarad, M. ..... Weirton
**Boggs, Edward H. ..... Wheeling
Brand, J. M. ..... Chester
**Fisher, J. E. ..... New Cumberland
**Flood, Richard E. ..... Hollidays Cove
Focer, R. L. ..... Weirton
Hall, J. E. ..... Newell
**Justice, Edward L. ..... Hollidays Cove
**McNinch, E. R. ..... Weirton
**Polen, F. E. ..... Hollidays Cove
Richmond, J. E. ..... Weirton
Rigas, George S. ..... Weirton
Rinehart, A. B. ..... Corpus Christi (Tex.)
Schwartz, L. O. ..... Weirton
Slate, T. A. ..... Hollidays Cove
Thompson, J. L. ..... Weirton
Whitaker, L. A. ..... Weirton
Wolpert, Milton ..... Chester
**Yurko, Anthony ..... Hollidays Cove

HARRISON

**Allen, Ross ..... Clarksburg
**Allman, W. H. ..... Clarksburg
Brake, B. S. ..... Clarksburg
Brannon, E. H. ..... Bridgeport
Brennan, J. T. ..... Clarksburg
Chandler, F. C. ..... Bridgeport
Coffindaffer, R. S. ..... Shinnston
Cruikshank, D. P. ..... Lumberport
Davis, Edward ..... Salem
Davis, W. M. ..... Bridgeport
*Esker, H. H. ..... Clarksburg
**Evans, G. F. ..... Clarksburg
**Farrell, Marcus E. ..... Clarksburg
**Fisher, C. F. ..... Clarksburg
Flowers, Earl N. ..... Clarksburg
*Folk, John ..... Bridgeport
**Genin, F. G. ..... Clarksburg
**Gilman, Joseph ..... Clarksburg
**Gocke, Jack T. ..... Clarksburg
Gocke, Thomas V. ..... Clarksburg
Gocke, W. T. ..... Clarksburg
**Golz, H. H. ..... Clarksburg
Grant, Sylvia S. ..... Park
Greer, C. C. ..... Clarksburg
**Hall, S. S. ..... Clarksburg
Hanifan, R. K. ..... Clarksburg
Harris, T. G. ..... West Milford
**Harrison, Charles S. ..... Clarksburg
Haynes, H. H. ..... Clarksburg
**Hess, D. S. ..... Shinnston
*Hill, E. A. ..... Greenwood
**Humphries, R. T. ..... Clarksburg
Jabaut, S. W. ..... Shinnston
Jackson, Kenna ..... Clarksburg
Jarvis, C. C. ..... Clarksburg
Kelly, A. O. ..... Wallace
*Kemper, A. J. ..... Lost Creek
Kerr, John C. ..... Clarksburg
**Klyza, S. J. ..... Clarksburg
Ladwig, O. W. ..... Wilsonburg
Langfitt, F. V. ..... Clarksburg
Lembright, J. F. ..... Clarksburg
Linger, R. B. ..... Clarksburg
Lough, D. H. ..... Clarksburg
**McClung, James R. ..... Clarksburg

† In Military Service
* Honorary Member
** Released from Military Service

**McCuskey, John F. ..... Clarksburg
McGuire, J. P. ..... Clarksburg
Mills, L. H. ..... Clarksburg
Neal, L. E. ..... Clarksburg
*Ogden, C. R. ..... Clarksburg
Owens, W. T. ..... Clarksburg
Page, J. E. ..... Clarksburg
Pearcy, C. L. ..... Salem
*Pendleton, E. ..... Clarksburg
Ping, E. C. ..... Clarksburg
Pletcher, R. O. ..... Lost Creek
Post, A. T. ..... Clarksburg
Post, C. O. ..... Clarksburg
*Post, S. H. ..... Volga
**Ralston, James ..... Clarksburg
**Randolph, E. B. ..... Lost Creek
Repass, James C. ..... Lumberport
†Riheldaffer, Wm. H. ..... Romney
*Riley, R. M. ..... Nutter Fort
Ritter, E. E. ..... Salem
Rose, George W. ..... Clarksburg
Shore, E. L. ..... Salem
Slater, C. N. ..... Clarksburg
Spelsburg, W. W. ..... Clarksburg
Stephenson, J. E. ..... Clarksburg
Strother, W. L. ..... Salem
Stroud, C. G. ..... Shinnston
Thomas, H. V. ..... Clarksburg
Tucker, E. D. ..... Nutter Fort
**Weaver, Andrew J. ..... Clarksburg
*Wehner, E. F. ..... Clarksburg
Whisler, H. A. ..... Clarksburg
Wilkinson, B. W. ..... Clarksburg
Williams, J. F., Jr. ..... Clarksburg
Willis, C. A. ..... Clarksburg
Wilson, J. E. ..... Clarksburg
**Wilson, J. E., Jr. ..... Clarksburg
**Wornal, L. S. ..... Shinnston
Wright, E. B. ..... Clarksburg
**Wright, W. B. ..... Clarksburg
**Zinn, L. D. ..... Clarksburg

KANAWHA

Albrecht, M. ..... Charleston
**Aliff, Robert Carl ..... Richmond (Va.)
*Amick, A. L. ..... Charleston
**Amick, F. E. ..... Charleston
Anderson, R. L. ..... Charleston
Angell, H. W. ..... Charleston
Angstadt, N. G. ..... Charleston
Armentrout, Lewis H. ..... Charleston
**Ashman, H. ..... New York (N.Y.)
**Bachwitt, David ..... South Charleston
Baer, R. E. ..... South Charleston
Bailey, H. A. ..... Charleston
Bailey, R. W. ..... Hurricane
**Baldock, H. E. ..... Charleston
Banks, J. Bankhead ..... Charleston
Barber, D. N. ..... Charleston
Barber, T. M. ..... Charleston
**Basman, Jack ..... Charleston
Beddow, H. M. ..... Charleston
Belknap, Helen ..... St. Albans
**Bivens, S. L. ..... Charleston
Black, W. P. ..... Charleston
Blagg, B. V. ..... South Charleston
Blake, T. H. ..... St. Albans
Bobbitt, O. H. ..... Charleston
**Bock, Robt. C. ..... Charleston
**Boiarsky, Julius ..... Charleston
Bonar, M. L. ..... Charleston
**Bowyer, A. B. ..... Charleston
**Bradford, Bert, Jr. ..... Charleston
Brady, A. Spates, Jr. ..... Charleston
Breisacher, Carl F. ..... Charleston
**Brick John P. ..... Charleston
Brown, H. M. ..... Charleston
*Brown, R. J. ..... Sutton

Buff, I. E. ..... Charleston
Buford, R. K. ..... Charleston
Bull, S. W. ..... Spencer
Burdette, Rex A. ..... Charleston
Cannaday, J. E. ..... Charleston
Capito, G. B. ..... Charleston
**Carter, W. Smoot ..... Charleston
Champe, Preston ..... Charleston
**Chandler, A. C. ..... Charleston
**Churchman, V. T. ..... Charleston
Clark, F. A. ..... Charleston
**Condry, John C. ..... Charleston
**Cooke, W. L. ..... Charleston
*Copeland, C. E. ..... Charleston
Cox, L. E. ..... Charleston
*Davis, E. A. ..... Charleston
**Dawson, R. O. ..... Charleston
**Dent, D. A. ..... Charleston
Duling, M. S. ..... Charleston
Dunlap, J. L. ..... Nitro
**Dunn, Edward T., Jr. ..... South Charleston
Dunn, R. H. ..... South Charleston
**Eckman, Leonard ..... South Charleston
Elkin, W. Paul ..... Charleston
Erwin, F. L. ..... Burnwell
**Escue, H. M. ..... Charleston
Eves, F. P. ..... Charleston
Fisher, H. H. ..... Dunbar
Fleshman, C. M. ..... Clendenin
Frame, R. I. ..... Sharples
Frank, Ludwig ..... Charleston
Frazier, J. W. ..... Charleston
Gallagher, Mary V. ..... Charleston
Gerhardt, P. R. ..... Charleston
**Given, A. J. ..... Rensford
Glass, H. R. ..... Charleston
Glass, W. J. ..... Sissonville
**Glassman, Dan ..... Charleston
**Godbey, J. R. ..... Charleston
Gordon, A. T. ..... Spencer
Gott, E. Fred ..... Charleston
**Grace, J. E. ..... Cabin Creek
**Gray, James H. ..... Ward
Grisinger, G. F. ..... Charleston
†Groves, Owen A. ..... Charleston
**Hager, J. L. ..... Charleston
**Haley, John B. ..... Charleston
**Haley, P. A., II ..... Charleston
**Hall, Carl B. ..... Charleston
Halloran, R. O. ..... Charleston
Hamrick, R. E. ..... Charleston
Hamrick, R. S. ..... St. Albans
Hardesty, W. L. ..... Charleston
Harper, C. A. ..... Clendenin
Harper, O. M. ..... Clendenin
**Hash, J. W. ..... Charleston
Hassig, Donald G. ..... Middlebourne
Hayes, E. R. ..... Chelyan
Heffner, G. P. ..... Charleston
Henson, E. B. ..... Charleston
**Hills, H. M., Jr. ..... Charleston
Hoffman, W. E. ..... Charleston
Hoke, L. I. ..... Nitro
Holcombe, V. E. ..... Charleston
**Hoover, S. R. ..... Charleston
**Houck, C. L. ..... Carbon
Houck, M. R. ..... Carbon
Howell, H. H. ..... Madison
Hudgins, A. P. ..... Charleston
Hunter, J. Ross ..... Charleston
Hutchinson, T. H. ..... Malden
Ireland, R. A. ..... Charleston
Irwin, G. G. ..... Charleston
**Jarrell, C. A. ..... Charleston
**Jarrett, John T. ..... Charleston
Jarrett, L. A. ..... Dunbar
**Jarrett, Marion F. ..... Charleston
**Jones, Ralph J. ..... Charleston
**Jordan, E. V. ..... Charleston

Kessel, C. R. . . . . Ripley
**Kessel, Ray . . . . . Charleston
**Kessel, Russell . . . . . Charleston
Ketchum, R. D. . . . . Charleston
Koenigsberg, Max . . . . . Charleston
Kuhn, Beatrice H. . . . . Charleston
Kuhn, Harold H. . . . . Charleston
Lampton, Arthur K. . . . . Gallagher
Lance, V. L. . . . . Charleston
Law, H. D. . . . . Charleston
**Lewis, C. E. . . . . Charleston
**Lilly, Goff P. . . . . Charleston
Lilly, J. P. . . . . Charleston
Litsinger, E. A. . . . . Charleston
Litton, A. C. . . . . Charleston
Louft, R. R. . . . . Charleston
**Lovejoy, U. C. . . . . Charleston
**Lutz, John E. . . . . Charleston
Mace, V. E. . . . . Charleston
**MacNamara, R. J. . . . . Charleston
**Mantz, Theodore P. . . . . Charleston
Marquis, Henrietta . . . . . Charleston
**Marquis, J. N. . . . . Charleston
**Matthews, L. B. . . . . Charleston
McClanahan, Rose . . . . . Charleston
McClue, A. E. . . . . Dunbar
McClure, U. G. . . . . Charleston
McLaughlin, Ralph S. . . . . Charleston
*McMillan, W. A. . . . . Charleston
McMillan, W. O. . . . . Charleston
McPherson, H. D. . . . . Eskdale
Mendeloff, M. I. . . . . Charleston
Mican, H. M. . . . . Charleston
Milhoan, A. W. . . . . Nitro
Miyakawa, George . . . . . Charleston
Morison, O. N. . . . . Charleston
Mynes, L. H. . . . . Charleston
Nale, T. W. . . . . New York (N.Y.)
Nelson, George O. . . . . Nitro
**Newhouse, N. H. . . . . Charleston
Niedermyer, J. W. . . . . Charleston
**O'Dell, Richard N. . . . . Charleston
**Palmer, G. F. . . . . Charleston
Peck, Earl M. . . . . Charleston
Pence, R. E. . . . . South Charleston
**Peters, J. T. . . . . South Charleston
**Peterson, V. L. . . . . Charleston
*Phillips, S. H. . . . . St. Albans
Point, W. W. . . . . Charleston
**Polsue, W. C. . . . . Charleston
Powell, Charles W. . . . . Charleston
Preiser, Phillip . . . . . Charleston
Price, A. M. . . . . Madison
Price, R. B. . . . . Charleston
**Pushkin, Willard . . . . . Charleston
Putschar, W. J. G. . . . . Charleston
**Quick, James C. . . . . Clendenin
Reed, T. G. . . . . Charleston
**Reel, F. C. . . . . Charleston
**Revercomb, P. H. . . . . Charleston
Ritter, H. H. . . . . Charleston
Robertson, G. C. . . . . Charleston
Robertson, H. L. . . . . Charleston
*Robertson, W. B. . . . . Kearneysville
Robertson, W. S. . . . . Charleston
Robins, J. E., Jr. . . . . Charleston
Robinson, J. H. . . . . Charleston
Rohr, J. U. . . . . Charleston
**Rossman, Wm. B. . . . . Charleston
Rucker, J. E. . . . . Charleston
*Schoolfield, G. C. . . . . Charleston
**Scott, C. N. . . . . Martinsburg
Seletz, A. A. . . . . Charleston
Selman, J. H. . . . . Charleston
Seltzer, Jos. P. . . . . Charleston

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**Shamblen, Earle . . . . . Charleston
Shawkey, A. A. . . . . Charleston
**Shepherd, E. M. . . . . Charleston
Shepherd, W. S. . . . . Charleston
Shirkey, W. F. . . . . Charleston
**Skaff, Victor S. . . . . Charleston
Skaggs, J. S. . . . . Knoxville (Tenn.)
Skaggs, J. W. . . . . Nitro
Smith, A. A. . . . . Clay
Smith, B. A. . . . . Spencer
**Smith, C. B. . . . . Charleston
Souleyret, S. B. . . . . Cabin Creek
**Soulsby, P. C. . . . . Pratt
Spencer, Tracy N., Jr. South Charleston
Squire, E. W. . . . . Charleston
**Staats, Charles . . . . . Charleston
Stanley, L. P. . . . . Charleston
Starcher, R. C. . . . . Ripley
Stewart, W. C. . . . . Charleston
Stoeckel, Catherine R. . . . . Charleston
Stork, A. R. . . . . Logan
**Strickland, L. N. . . . . Summersville
Summers, R. R. . . . . Charleston
**Swart, H. A. . . . . Charleston
Thompson, H. G. . . . . Charleston
**Thornhill, W. A., Jr. . . . . Charleston
**Tuckwiller, P. A. . . . . Charleston
Vaughan, E. O. . . . . St. Albans
**Vial, Horace R. W. . . . . South Charleston
**Ward, Harold W. . . . . Columbus (O.)
Watts, C. N. . . . . Charleston
Webb, R. L. . . . . Charleston
Whiteside, C. T. . . . . Kayford
Wilkerson, W. V. . . . . Prenter
Wilson, A. A. . . . . Charleston
Wilson, W. B. . . . . Charleston
*Wilson, W. H. . . . . St. Albans
Woodall, R. E. . . . . Charleston
Work, W. F. . . . . Charleston

LOGAN

Altizer, A. E. . . . . Accoville
*Aultz, L. L. . . . . Ward
**Bonar, Robert R. . . . . Philadelphia (Pa.)
**Brammer, F. E. . . . . Dehue
Brewer, W. E. . . . . Logan
Combes, L. G. . . . . Holden
**Dalton, Horace M. . . . . Memphis (Tenn.)
Davis, C. A. . . . . Logan
Deason, V. A. . . . . Logan
Farley, H. H. . . . . Logan
**French, A. M. . . . . Logan
**Greene, Joseph L. . . . . Logan
Hamilton, W. P. . . . . Chapmanville
**Hanna, Michael I. . . . . Holden
Jamison, Frank R. . . . . Logan
**Kizinski, Alexander B. . . . . Logan
**Kruger, I. M. . . . . Logan
Lawson, L. W. . . . . Logan
*Lawson, S. B. . . . . Logan
Lyons, J. W. . . . . Holden
Matthews, W. E. . . . . Huntington
McClellan, W. T. . . . . Ethel
**Mullins, George R. . . . . Logan
Parker, W. H. . . . . Braeholm
Patterson, J. L. . . . . Holden
Poling, Owen . . . . . Mason
Roberts, R. W. . . . . Man
*Round, F. L. . . . . Holden
Rowan, W. S. . . . . Logan
Scott, Robert K. . . . . Lorado
Smith, B. D. . . . . Amherstdale
Smith, T. C. . . . . Slagle
**Starcher, E. H. . . . . Logan
*Steele, L. E. . . . . Logan
Sutphin, Mark . . . . . Logan
Trippett, L. H. . . . . Earling

Van Hoose, Harold . . . . . Mallory
Vaughan, R. R. . . . . MacBeth

MARION

**Baron, L. E. . . . . Mannington
Barr, J. M. . . . . Worthington
**Blanton, J. L. . . . . Clifton Springs (N.Y.)
Bonnar, James M. . . . . Fairmont
Bressler, David . . . . . Monongah
Carter, C. J. . . . . Fairmont
Clinton, J. B. . . . . Fairmont
Collins, J. C. . . . . Fairmont
Criss, H. L. . . . . Fairmont
**Evans, Geo. T. . . . . Idamay
Falconer, H. S. . . . . Fairmont
**Fleming, H. C. . . . . Fairmont
**Frye, R. R. . . . . Mannington
Hamilton, D. D. . . . . Mannington
Helmick, John P. . . . . Fairmont
Hickson, Edward W. . . . . Fairmont
Hobbs, Melford L. . . . . Fairmont
*Holland, C. L. . . . . Fairmont
Holland, E. A. . . . . Fairmont
Jenkins, J. J. . . . . Farmington
Jenkins, J. J., Jr. . . . . Farmington
*Johnson, H. R. . . . . Fairmont
**Johnson, Philip . . . . . Fairmont
**Jones, R. Harold . . . . . Fairmont
Keister, H. S. . . . . Fairmont
*Kinney, C. L. . . . . Idamay
**Lambert, L. R. . . . . Fairmont
Lawson, C. S. . . . . Fairmont
**Lawson, William . . . . . Fairmont
*Leahy, W. J. . . . . Mannington
**Mallamo, J. T. . . . . Fairmont
Maxwell, Jos. S. . . . . Fairmont
Miller, G. R. . . . . Fairview
Moore, P. G. . . . . Mannington
Morgan, G. V. . . . . Fairmont
Norris, L. D. . . . . Fairmont
Nunnally, Wm. Ord . . . . . Fairmont
Offner, J. E. . . . . Fairmont
Orr, W. W. . . . . Rachel
Parks, C. L. . . . . Fairmont
**Parks, Seigle W. . . . . Fairmont
Ramage, C. M. . . . . Fairmont
Rogers, F. B. . . . . Fairmont
Romino, J. D. . . . . Fairmont
Sowers, F. F. . . . . Fairmont
Spencer, L. O. . . . . Fairmont
Swisher, K. Y. . . . . Fairview
*Trach, J. M. . . . . Fairmont
Trach, J. P. . . . . Fairmont
Traugh, G. H. . . . . Fairmont
Tuckwiller, J. R. . . . . Fairmont
Vacheresse, Edw., Jr. . . . . Fairmont
**Van Horn, K. L. . . . . Fairmont
Welton, W. A. . . . . Fairmont
Wise, E. D. . . . . Fairmont
Yost, Herschel R. . . . . Fairmont
Yost, Joe . . . . . Fairmont
Yost, Paul . . . . . Fairmont

MARSHALL

**Ashworth, Harold . . . . . Moundsville
Ashworth, R. A. . . . . Moundsville
Benson, Don S. . . . . Moundsville
†Boggs, W. C. . . . . Wheeling
Bone, B. F. . . . . Moundsville
**Bradford, Wm. P. . . . . Moundsville
Covert, O. F. . . . . Moundsville
Dotson, Samuel C., Jr. . . . . Cameron
**Ealy, D. L. . . . . Moundsville
*Fortney, M. J. . . . . Hundred
Grimm, R. B. . . . . Cameron
Hartwig, W. B. . . . . Wheeling
Kaufman, Edward L. . . . . McMechen

Luikart, J. H. ... Moundsville
**McIlvain, W. E. ... Moundsville
Peck, J. C. ... Moundsville
Striebich, J. A. ... Moundsville
Yoho, S. F. ... Moundsville

MASON

Brown, C. Leonard ... Pt. Pleasant
Bryant, R. F. ... New Haven
Long, Frank C. ... Pt. Pleasant
McElfresh, Edward V. ... Pt. Pleasant
Petty, C. W. ... Hartford

MERCER

**Bertling, M. H. ... Durham (N. C.)
Bird, Ben W., Jr. ... Princeton
Blaydes, J. E. ... Bluefield
**Butte, C. I. ... Matoaka
Calvert, J. W. ... Lamar
Clements, B. S. ... Matoaka
Connell, H. R. ... Bluefield
Cunningham, Raymond ... Bluefield
**Davis, H. C. ... Bluefield
Davidson, S. G. ... Bluefield
Fowlkes, R. H. ... Bluefield
Fox, J. Francke ... Bluefield
Fox, P. R. ... Bluefield
**Fugate, R. C. ... Bluefield
**Gage, E. L. ... Bluefield
**Gatherum, Robt. ... Bluefield
Goodall, F. C. ... Princeton
**Hale, Daniel ... Princeton
**Harloe, W. M. ... Princeton
Higginbotham, Upshur ... Bluefield
Holroyd, F. J. ... Princeton
Horton, E. W. ... Bluefield
Hosmer, D. L. ... Bluefield
Hughes, C. R. ... Bluefield
Johnston, Cecil F. ... Bluefield
Kechele, D. V. ... Bluefield
Kelly, V. L. ... Bluefield
**King, O. G. ... Bluefield
**Kirby, Edgar ... Bluefield
*Lepper, D. B. ... Bluefield
Markell, J. I. ... Princeton
**McCauley, E. W. ... Bluefield
McGuire, John ... Bluefield
Neale, Richard C. ... Bluefield
**Pace, L. J. ... Princeton
Peters, I. T. ... Princeton
Reynolds, C. J. ... Bluefield
Rogers, R. O. ... Bluefield
St. Clair, C. T., Jr. ... Bluefield
St. Clair, W. H. ... Bluefield
St. Clair, W. H., Jr. ... Bluefield
**Scott, Chas. M. ... Bluefield
Shanklin, J. R. ... Bluefield
Sinclair, M. W. ... Bluefield
Slusher, W. C. ... Bluefield
Steele, H. G. ... Bluefield
Stuart, R R. ... Bluefield
Tanner, E. M. ... Bluefield
Todd, G. L. ... Princeton
**Todd, G. L., Jr. ... Princeton
Van Reenan, A. C. ... Bluefield
Vass, T. E. ... Bluefield
*Vermillion, J. R. ... Princeton
Vermillion, Uriah ... Athens
**Weier, Karl E. ... Bluefield
Yost, J. W. ... Princeton

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MINGO

Bailey, Meryleen ... Rock
Bentley, C. M. ... Freeburn (Ky.)
Boland, L. F. ... Williamson
Boutwell, J. H. ... Huntington
Brewster, G. W. ... LaGrange (Ky).
Burgess, W. H. ... Williamson
Burien, Frank J. ... Williamson
Easley, G. W. ... Williamson
**Farley, James A. ... Delbarton
**Gaskel, J. C. ... Williamson
Hatton, Don V. ... Williamson
Hays, H. C. ... Williamson
Irvine, G. B. ... Williamson
Johnson, J. E. ... Stone (Ky.)
Kahle, W. D. ... Glen Alum
Lawson, J. C. ... Williamson
McClees, J. E. ... Williamson
McClellan, Ernest E. ... Stollings
Peery, C. E. ... Majestic (Ky.)
Price, W. H. ... Chattaroy
Quincy, F. B. ... Williamson
Stepp, E. P. ... Kermit
Walker, W. J. ... Iaeger
Zando, S. G. ... Williamson

MONONGALIA

Ashworth, Glenn ... Morgantown
Baker, Wm. P. ... Morgantown
**Brannon, Dorsey ... Morgantown
Bray, C. M. ... Morgantown
Caserta, Peter ... Morgantown
*Cobun, L. W. ... Morgantown
Collins, A. B. ... Blacksville
Cottle, S. W. ... Morgantown
Crynock, P. D. ... Morgantown
Dent, Charles F. ... Morgantown
Fenton, C. C. ... Morgantown
Fisher, R. W. ... Morgantown
**Fleming, Robert ... Morgantown
**Gerchow, K. E. ... Morgantown
Heiskell, E. F. ... Morgantown
Howell, W. H. ... Morgantown
Johnson, C. E. ... Morgantown
Johnson, P. C. ... Belle
King, H. V. ... Morgantown
King, W. E. ... Morgantown
Lawless, J. J. ... Morgantown
Madera, W. L. ... Morgantown
Mahan, Charles ... Morgantown
Maxwell, G. R. ... Morgantown
McBee, T. Jud ... Morgantown
**Miller, F. R. ... Morgantown
**Moore, B. J. ... Morgantown
Moser, W. C. ... St. Petersburg (Fla.)
Phillips, G. W. ... Morgantown
**Pickett, J. C. ... Morgantown
**Post, D M. ... Morgantown
Pride, C. B. ... Morgantown
Pride, Maynard ... Morgantown
**Rich, H. A. ... Morgantown
Romine, C. C. ... Morgantown
**Scherr, W. B. ... Morgantown
*Simpson, J. N. ... Morgantown
**Sleeth, C. K. ... Morgantown
**Stecker, J. F. ... Morgantown
Stemple, Margaret ... Chicago (Ill.)
*Stout, B. M. ... Morgantown
**Strawn, L. M. ... Morgantown
**Thompson, C. T. ... Morgantown
Thompson, James ... Morgantown
**Trotter, J. H. ... Morgantown
Tucker, E. B. ... Morgantown
Van Liere, E. J. ... Morgantown
**Voelker, Chris ... Morgantown
**Warman, W. M. ... Morgantown
Whittlesey, F. R. ... Morgantown
*Wylie, C. B. ... Morgantown

McDOWELL

Anderson, J. H. ... Hemphill
Bailey, J. B. ... Davy
Bennett, J. A. ... Algoma
Bracey, A. H. ... Welch
Bracey, H. A. ... Welch
Bragonier, R. K. ... Keystone
Burger, Roy E. ... Welch
Camper, H. G. ... Welch
**Carr, A. B. ... War
**Castrodale, Dante ... Welch
†Chandler, C. B. ... Iaeger
Chapman, C. B. ... Welch
Clark, C. T. ... Iaeger
Cochran, C. C. ... Kimball
Coleman, Herbert M. ... Iaeger
Coontz, Otis H. ... Pomona (Calif.)
Coulon, N. F. ... Thorpe
**Counts, W. R. ... Welch
Davis, J. E. ... Welch
**Dunman, L. E. ... Gary
Dyer, N. H. ... Charleston
Edwards, R. H. ... Welch
Elliott, Boyce ... Maybeury
Evans, G. P. ... Iaeger
Evans, H. P. ... Keystone
**Gates, Edmond O. ... Welch
Gibson, E. D. ... Coalwood
**Goodwin, F. H. ... Bluefield
Hall, W. C. ... Welch
**Hancock, H. J. ... Sedley (Va.)
Hatfield, D. D. ... Yukon
Jackson, C. F. ... Charleston
Johnston, W. L. ... Princeton
Kirk, E. H. ... Richlands (Va.)
**Kroll, Peter G. ... Mt. Carmel (Pa.)
LaPrade, F. E. ... Tampa (Fla.)
Lovas, E. E. ... Berwind
McCarty, J. L. ... Berwind
Murry, J. H. ... Vivian
Read, B. J. ... Welch
Rivers, D. G. ... Gilliam
Saunders, Irvine ... Welch
Schiefelbein, H. T. ... Welch
**Shanes, Herbert N. ... Coalwood
Shanklin, R. V. ... Bluefield
**Smith, M. W. ... Biloxi (Miss.)
Spahr, Aaron B. ... War
Spangler, P. C. ... Morganton (N.C.)
**Stevens, W. R. ... Bartley
Straub, G. L. ... Welch
Torregrossa, M F. ... Ashland
Vaughan, Florien ... Hemphill
Vermillion, E. E. ... Welch
**Vermillion, J. S. ... Kingsport (Tenn.)
Vick, C. W. ... Jenkinjones
**Villani, A. J. ... Welch
**Warren, J. O. ... Welch
Wetherby, V. L. ... Welch
**Wilson, Arnold ... Pasadena (Tex.)
Young, W. B. ... Northfork

OHIO

Abersold, G. W. ... Wheeling
**Ackerman, W. E. ... Wheeling
Armbrecht, R. J. ... Wheeling
Azar, H. N. ... Wheeling
Bailey, R. B. ... Wheeling
**Bandi, R. T. ... Wheeling
Belgrade, J. T. ... Wheeling
**Bickel, C. S. ... Wheeling
Bippus, E. S. ... Wheeling
**Bird, J. D., Jr. ... Elm Grove
**Bobes, S. S. ... Wheeling
Bond, R. C. ... Wheeling
**Brown, George H. ... Wheeling
**Buffington, C. B. ... Wheeling

Caldwell, J. R. . . . . Wheeling
Clovis, C. H. . . . . Wheeling
Clovis, E. E. . . . . Wheeling
Copeland, H. B. . . . . Wheeling
Cracraft, W. A., Jr. . . . . Wheeling
**Del Vecchio, James J. . . . . Wheeling
**Dobbs, F. H. . . . . Wheeling
**Drinkard, R. U. . . . . Wheeling
Farri, L. B. . . . . Wheeling
Fawcett, Ivan . . . . . Wheeling
Gaydosh, M. . . . . Wheeling
**Gaydosh, M. A., Jr. . . . . Wheeling
**Gaynor, John S. . . . . Wheeling
Gill, R. D. . . . . Wheeling
Gilmore, J. W. . . . . Wheeling
Glass, E. F. . . . . Wheeling
**Graham, Paul V. . . . . Wheeling
Greeneltch, D. E. . . . . Wheeling
Haislip, N. L. . . . . Wheeling
Harpfer, H. C. . . . . Wheeling
Hazlett, James C. . . . . Wheeling
Hershey, C. D. . . . . Wheeling
Higgins, A. W. . . . . Wheeling
Holley, C. J. . . . . Wheeling
Jones, A. L. . . . . Wheeling
Jones, E. L. . . . . Wheeling
Joseph, N. K. . . . . Wheeling
Joseph, Wilda S. . . . . Wheeling
Kalbfleisch, W. K. . . . . Wheeling
Keesor, C. H. . . . . Wheeling
Klug, T. M. . . . . Wheeling
Lewellyn, R. H. . . . . Elm Grove
**Little, H. G. . . . . Wheeling
**Lukens, R. W. . . . . Wheeling
Lyon, L. A. . . . . Wheeling
MacGregor, D. A. . . . . Wheeling
Maskrey, Frank R. . . . . Wheeling
McClure, W. T. . . . . Wheeling
McCoy, A. V. . . . . Elm Grove
McCoy, C. G. . . . . Elm Grove
McCurdy, J. A. . . . . Wheeling
**McCuskey, Paul L. . . . . Wheeling
McCuskey, W. C. D. . . . . Wheeling
McLain, W. H. . . . . Wheeling
Megahan, Burke . . . . . Elm Grove
Meier, J. S. . . . . Wheeling
**Moore, John M. . . . . Wheeling
**Murphy, J. H. . . . . Wheeling
**Niehaus, A. J. . . . . Triadelphia
Nolte, A. E. . . . . Wheeling
**Osterman, A. L. . . . . Wheeling
**Palmer, David W. . . . . Wheeling
Pell, E. N. . . . . Wheeling
**Perilman, Wm. . . . . Wheeling
**Peterson, Heyes . . . . . Wheeling
Phillips, Edward M. . . . . Wheeling
Phillips, Earl S. . . . . Wheeling
**Phillips, Edward S. . . . . Wheeling
Phillips, H. T. . . . . Wheeling
Phillips, R. W. W. . . . . Wheeling
**Pickar, Daniel N. . . . . Wheeling
**Purpura, Anthony J. . . . . Wheeling
Quimby, W. A. . . . . Wheeling
**Rankin, J. O. . . . . Wheeling
Reed, R. J. . . . . Wheeling
Reed, R. J., Jr. . . . . Wheeling
Sammons, W. P. . . . . Wheeling
Sauder, H. R. . . . . Wheeling
**Sheppe, W. M. . . . . Wheeling
Snider, R. J. . . . . Wheeling
**Sonneborn, Robert M. . . . . Wheeling
**Spargo, James E. . . . . Wheeling
Staats, O. M. . . . . Wheeling
**Stewart, J. K. . . . . Wheeling

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Strobel, G. E. . . . . Wheeling
Thoner, J. G. . . . . Wheeling
Tommassene, R. A. . . . . Wheeling
Tretheway, S. W. . . . . Wheeling
**Vieweg, G. L., Jr. . . . . Wheeling
**Walters, J. W. . . . . Toledo (O.)
Wanner, A. L. . . . . Wheeling
Webb, W. B. . . . . Warwood
**Weiler, H. G. . . . . Wheeling
Williams, M. B. . . . . Wheeling
Zubak, M. F. C. . . . . Wheeling

PARKERSBURG ACADEMY

Adams, W. A. . . . . Parkersburg
Artz, C. P. . . . . Columbus (O.)
**Asch, J. T. . . . . Parkersburg
**Bateman, George . . . . . Williamstown
**Batten, James C. . . . . Parkersburg
**Bevauqua, W. A. . . . . Parkersburg
**Biddle, Robert . . . . . Parkersburg
Blair, F. L. . . . . Parkersburg
**Blair, Holmes . . . . . Parkersburg
Boice, R. H. . . . . Parkersburg
*Boyers, C. L. . . . . Parkersburg
Bronaugh, Wayne . . . . . Parkersburg
*Brown, C. N. . . . . Swandale
*Camp, W. C. . . . . Spencer
Casto, O. J. . . . . Parkersburg
Conley, Orva . . . . . Parkersburg
Connolly, Ira . . . . . Parkersburg
**Connolly, Randall . . . . . Parkersburg
**Corbitt, Richard . . . . . Parkersburg
*Crooks, E. W. . . . . Parkersburg
Davis, R. E. . . . . Parkersburg
**Davis, William . . . . . Parkersburg
Dearman, A. M. . . . . Parkersburg
Depue, J. M. . . . . Spencer
*Fisher, M. O. . . . . Parkersburg
Gaynor, H. E. . . . . Parkersburg
Gilmore, M. A. . . . . Parkersburg
Goff, E. T. . . . . Parkersburg
**Goff, S. W. . . . . Parkersburg
Goff, W. R. . . . . Parkersburg
**Goodhand, Charles . . . . . Parkersburg
**Hamilton, Richard . . . . . St. Marys
Harris, T. L. . . . . Parkersburg
**Harsha, G. M. . . . . Sistersville
Hartman, E. C. . . . . Parkersburg
Hively, H. D. . . . . Parkersburg
**Holmes, E. B. . . . . Parkersburg
**Hovis, Logan . . . . . Parkersburg
*Jeffers, G. D. . . . . Parkersburg
Jones, A. M. . . . . Parkersburg
Jones, James P. . . . . Pennsboro
Jones, L. P. . . . . Pennsboro
Judy, W. J. . . . . Elkins
Keith, T. W. . . . . Harrisville
**Keller, Frederick D. . . . . Parkersburg
Kraft, C. D. . . . . Parkersburg
Lattimer, R. D. . . . . Parkersburg
**Leeson, L. R. . . . . Parkersburg
**Lincicome, Robert . . . . . Parkersburg
**Lutz, A. R. . . . . Parkersburg
*Miller, R. B. . . . . Parkersburg
Moore, Dana T. . . . . Parkersburg
Newman, R. C. . . . . Spencer
**Nicholson, B. B. . . . . Parkersburg
Potter, Fred J. . . . . Parkersburg
**Priddy, N. D. . . . . Ravenswood
Prunty, S. M. . . . . Parkersburg
*Rogers, J. G. . . . . Parkersburg
Rogers, Watson F. . . . . Parkersburg
*Rose, L. O. . . . . Parkersburg
**Santer, M. A. . . . . Parkersburg
**Shafer, C. W. . . . . Spencer
Sheridan, Richard . . . . . Parkersburg
Sidell, A. R. . . . . Williamstown
**Staats, E. D. . . . . Ripley

**Staats, Roydice . . . . . Cairo
Starkey, P. C. . . . . Ravenswood
Thrasher, E. L. . . . . Sistersville
**Ulch, H. W. . . . . Parkersburg
Veon, H. H. . . . . Parkersburg
Wade, J. L. . . . . Parkersburg
Walton, L. E. . . . . Pennsboro
**Wharton, R. H. . . . . Parkersburg
**Widmeyer, R. S. . . . . Parkersburg
*Wise, S. D. H. . . . . Parkersburg
**Woofter, A. C. . . . . Parkersburg
*Wright, E. L. . . . . Parkersburg
**Yeager, W. R. . . . . Parkersburg

POTOMAC VALLEY

Berry, P. E., Jr. . . . . Piedmont
**Bess, Robert W. . . . . Piedmont
Bess, Thomas . . . . . Keyser
Brooks, O. V. . . . . Moorefield
**Coffman, Harry . . . . . Keyser
**Coffman, Robert T. . . . . Keyser
Courrier, E. A. . . . . Keyser
Dailey, R. W. . . . . Romney
*Drinkwater, W. G. . . . . Gormania
Dyer, V. L. . . . . Petersburg
Easton, J. F. . . . . Romney
Flick, W. A. . . . . Keyser
**Giffin, T. C. . . . . Keyser
Grove, J. B. . . . . Petersburg
Hartle, Gerald E. . . . . Wardensville
Huffman, T. T. . . . . Keyser
Johnson, S. B. . . . . Franklin
King, C. E. . . . . Petersburg
Love, R. W. . . . . Moorefield
Maxwell, M. H. . . . . Moorefield
McFarland, W. F. . . . . Keyser
Mitchell, O. F. . . . . Franklin
Moyers, B. F. . . . . Mathias
Newcome, J. A. . . . . Keyser
Reynolds, O. S. . . . . Franklin
**Veach, Lysle T. . . . . Petersburg
**Wilson, P. R. . . . . Piedmont
Wolverton, J. H. . . . . Piedmont
**Wolverton, J. H., Jr. . . . . Piedmont

PRESTON

Arnett, J. C. . . . . Rowlesburg
**Barnes, Gareth B. . . . . Newburg
†Davis, DelRoy R. . . . . Kingwood
Fortney, F. D. . . . . Beckley
**Greenberg, Ralph C. . . . New York (N.Y.)
Jamison, W. P. . . . . Oakland (Md.)
Johnson, W. P., Jr. . . . . Arthurdale
**Lehman, J. F. . . . . Kingwood
**McIntire, T. S. . . . . Kingwood
†McLane, R. A., Jr. . . . . Masontown
Miller, B. B. . . . . Eglon
Miller, H. C. . . . . Eglon
Moser, C. Y. . . . . Baltimore (Md.)
Salkin, David . . . . . Hopemont
Smith, C. E. . . . . Terra Alta
Starkey, A. L. . . . . Hopemont
Viehman, A. J. . . . . Lexington (Ky.)
**Watson, David A. . . . . Buckhannon
Watson, E. E. . . . . Kingwood
White, S. R. . . . . Bruceton Mills

RALEIGH

**Ashton, D. C. . . . . Beckley
Banks, F. L. . . . . Beckley
*Banks, M. C. . . . . Raleigh
Bolen, J. W., Jr. . . . . New York (N.Y.)
Bowles, A. G. . . . . Beckley
Broaddus, R. G. . . . . Beckley
Chambers, R. W. . . . . Beckley
Coram, J. M. . . . . Beckley
Covey, W. C. . . . . Beckley

**Cunningham, G. R. ..... Tams
Cunningham, W. H. ..... Beckley
Daniel, D. D. ..... Beckley
*Daniel, G. P. ..... Glen Daniel
Daniel, R. P. ..... Pemberton
**Derkach, S. L. ..... Glen Rogers
DuPuy, Sanuel S. ..... Scarbro
*Eakin, B. W. ..... Tams
Edwards, Hugh S. ..... Beckley
Ford, S. A. ..... Beckley
Garrett, T. F. ..... Sprague
Godbey, John Q. ..... Sophia
Gwinn, G. E. ..... Beckley
Halloran, L. M. ..... Beckley
Harkleroad, F. S. ..... Beckley
**Heagarty, John P. ..... Layland
Hedrick, E. H. ..... Beckley
**Hedrick, G. C., Jr. ..... Beckley
Houser, L. G. ..... Beckley
*Hume, W. W. ..... Beckley
*Jarrell, D. B. ..... Beckley
Jarrell, K. M. ..... Beckley
*Johnson, G. W. ..... McAlpin
Kessel, Clark ..... Beckley
King, E. L. ..... Beckley
Mays, W. C. ..... Stanaford
McKenzie, J. E. ..... Beckley
*Mitchell, R. C. ..... Sophia
Moore, F. J. ..... Killarney
Moran, W. G., Jr. ..... Cranberry
Newman, Ross E. ..... Beckley

† In Military Service
* Honorary Member
** Released from Military Service

**Nutter, P. D. ..... Lancaster (Pa.)
Peter, B. K. ..... Beckley
Pickens, J. K. ..... Denver (Col.)
Pomputius, W. F. ..... Helen
Pronko, M. J. ..... Beckley
Ralsten, M. M. ..... Beckley
Rardin, W. H. ..... Beckley
**Richmond, Fred W. ..... Beckley
*Riley, W. M. ..... Lillybrook
Ruark, W. T. ..... Beckley
Shaffer, H. A. ..... Beckley
Shrewsbury, L. E. ..... Beckley
**Smith, C. A. ..... Raleigh
**Smith, R. G. ..... Columbus (O.)
Tieche, A. U. ..... Beckley
**Vaughan, P. E. ..... Beckley
Vermillion, T. U. ..... Beckley
**Whitlock, J. W. ..... Affinity
Williams, J. O. ..... Alderson
Wray, Everett B. ..... Stotesbury
*Wriston, Robert ..... Beckley

SUMMERS

*Cooper, O. O. ..... Feather Falls (Calif.)
**Holmes, Albert W. ..... Hinton
Howard C. L. ..... Hinton
**McNeer, B. W. ..... Hinton
McNeer, F. L. ..... Hinton
Pence, G. L. ..... Hinton
Ritter, D. W. ..... Hinton
Van Sant, W. L. ..... Hinton

TAYLOR

Campbell, O. S. ..... Grafton

**Haislip, Charles A. ..... Grafton
Heironimus, T. W., Jr. ..... Grafton
Kimble, J. U. ..... Grafton
Shafer, C. F. ..... Grafton
Stout, R. D. ..... Grafton
Warden, Paul P. ..... Grafton

WETZEL

Blum, E. C. ..... New Martinsville
Dyer, A. M., Jr. ..... Pine Grove
**Gordon, T. B. ..... New Martinsville
Hornbrook, Kent ..... New Martinsville
Martin, F. E. ..... New Martinsville
**Miller, R. F. ..... Paden City
Pyles, John W. ..... New Martinsville
Theiss, John O. ..... New Martinsville
Viggiano, M. A. ..... New Martinsville
Zinn, R. H. ..... Hundred

WYOMING

Biggart, J. F. ..... Mullens
Dearing, Walter ..... Mead
Hatfield, R. C. ..... Oceana
Khorozian, K. G. ..... Pineville
†Mangus, J. E. ..... Pineville
Penn, F. H. ..... Mullens
Steele, B. W. ..... Mullens
**Taylor, Harwood A. ..... Mullens
Upchurch, C. T. ..... Kopperston
Wilkinson, D. D. ..... Wyco
Wilkinson, E. M. ..... Pineville
**Wylie, Ward ..... Mullens
Zsoldos, F. J. ..... Glen Rogers

Obituaries

JESSE OSCAR BAILIFF, M. D.

Dr. Jesse Oscar Bailiff, 61, of Mullens, died at his home in that city November 3. Death resulted from the effects of a third paralytic stroke suffered September 22, 1946.

Doctor Bailiff was born in Illinois and graduated from the Chicago College of Medicine and Surgery in 1914. He was licensed to practice in West Virginia in 1920 and located at Mullens in 1921. During World War I he served as a first lieutenant in the medical corps of the army, being assigned to an evacuation hospital at Verdun, in France.

Doctor Bailiff was a member of the West Virginia House of Delegates, 1937-38. He had served as department commander of the American Legion. He was a member of the Wyoming County Medical Society, the West Virginia State Medical Association and the American Medical Association.

Besides his widow, he is survived by a daughter, Jill Bailiff, of Jackson, Mississippi; and one brother, Wm. D. Bailiff, of Dexter, Missouri. A son, Jack D. Bailiff, was killed in action in Germany in March, 1944.

* * * *

PERTHAS C. CHENOWETH, M. D.

Dr. Perthas C. Chenoweth, 45, of Grafton, died November 25, 1947. Death was due to pulmonary embolism following a cholescystectomy.

Doctor Chenoweth was born in Clarksburg, son of Dr. B. M. and Adda (Benson) Chenoweth. After graduating from high school, he finished a pre-medical course at West Virginia University in 1925 and received his M. D. degree in 1928 from Emory University, Atlanta, Georgia. After completing his internship, he located at Wendel, in Taylor county. In 1934-35, he took postgraduate work in surgery at the University of Pennsylvania Medical School. From 1935 until 1942 he was a member of the staff of the Golden Clinic, Davis Memorial Hospital, in Elkins.

During World War II, he served as a surgeon in the North African and Italian campaigns. For several

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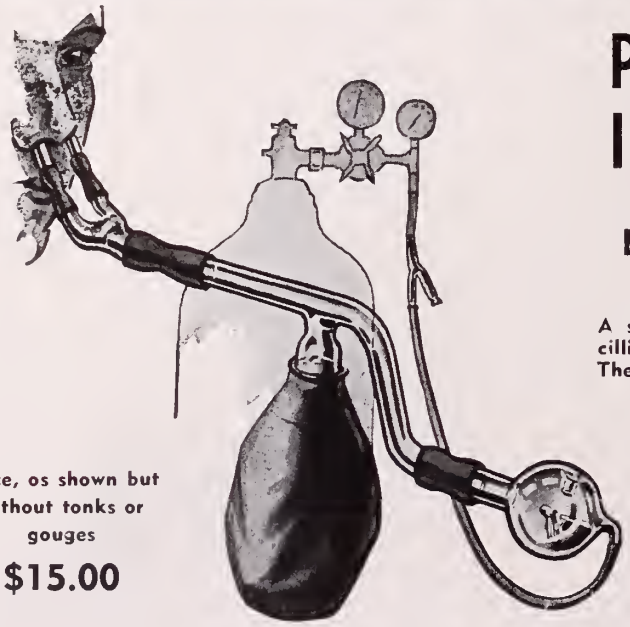

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months he was stationed at hospitals in the front lines in these theaters. He was honorably discharged in September, 1945, with the rank of captain. After his discharge from the army, he took postgraduate work in obstetrics and gynecology at the University of Georgia Hospital, in Augusta. He located at Grafton in April, 1946, where he practiced until his death.

Doctor Chenoweth was a member of the Barbour-Randolph-Tucker Medical Society, the West Virginia State Medical Association, the American Medical Association, and the West Virginia Gynecological and Obstetrical Society.

He is survived by his widow, the former Grayce Harding, of Clarksburg, and his mother, Mrs. Adda Chenoweth, of Philippi.

* * * *

JAMES RILEY McCOLLUM, M. D.

Dr. James Riley McCollum, 72, of St. Marys, died of coronary occlusion at his home in that city, November 15, 1946. He had been ill since June.

Doctor McCollum was born at Cairo, West Virginia, son of the late Harvey B. and Katherine (McKinney) McCollum. He received his M. D. degree in 1900 at the Baltimore College of Physicians and Surgeons, locating for the practice of his profession at St. Marys that same year, being associated with the late Dr. A. S. Grimm.

He was an honorary member of the Academy of Medicine of Parkersburg, the West Virginia State Medical Association ,and the American Medical Association. He served as examining physician for the Pleasants County Selective Service Board during the war years, and was a member of the West Virginia House of Delegates in 1915. In September, 1946, Doctor McCollum was unanimously named as "The Good, Good Neighbor" of Pleasants County.

Doctor McCollum is survived by his widow, the former Mabel McComas, and one daughter, Mrs. Chester Pitts, of St. Marys.

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JACK ROY TAYMAN RAFTER, M. D.

Dr. Jack Roy Tayman Rafter, 32, of Keyser, West Virginia, was killed October 21, 1946, in an automobile accident at Great Cacapon, West Virginia. Death was due to a fractured skull.

Doctor Rafter was born in 1914 at Keyser and graduated from the Medical College of Virginia in 1940. He passed the examination for licensure in West Virginia, October 7-9, 1946.

* * * *

CHARLES TIFFANY ST. CLAIR, M. D.

Dr. Charles T. St. Clair, 73, of Bluefield, died at his home in that city, November 17, 1946, following a heart attack. He had been in ill health for several months.

Doctor St. Clair was born at Bluestone, Tazewell County, Virginia. He received his academic training at Emory and Henry College and graduated in 1896 from the University of Virginia Department of Medicine, at Charlottesville. He began the practice of his profession in Pearisburg, Virginia, afterwards moving to Tazewell, where he was located for ten years. Completing a postgraduate course in Eye, Ear, Nose and Throat at the New York Eye and Ear Infirmary, he moved to Bluefield in 1911, where he practiced his specialty until his death.

Doctor St. Clair was a member of the Mercer and Tazewell County (Va.) medical societies, the West Virginia State Medical Association, and the American Medical Association. He also held membership in the American College of Surgeons, and the American Board of Oto-Laryngology.

He is survived by his widow, the former Rose Lee Snidow; one son, Dr. Charles T. St. Clair, Jr., who has been associated in practice with him at Bluefield for many years; one sister, Mrs. Henry T. Haley, of Tazewell, Virginia; and, seven brothers. Dr. Wade H. St. Clair, of Bluefield, president-elect of the West Virginia State Medical Association; Frank and Alexander St. Clair, of St. Clair, Virginia; John St. Clair, of Cumberland Turnpike; Glenn St. Clair, of Tazewell, Virginia; Otis St. Clair, of Welch: and, Roy St. Clair, of Harrisonburg, Virginia.

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County Society News

CABELL

Dr. Paul H. Harmon, of Huntington, medical director of the Morris Memorial Hospital for Crippled Children at Milton, was the guest speaker at he regular monthly meeting of the Cabell County Medical Society held at the Hotel Prichard in Huntington, November 14, 1946. He spoke on the subject of, "Arthroplastic Operations in the Treatment of Chronic Arthritis." He presented a most interesting and informative paper, which was illustrated by motion pictures and slides.

Doctor Harmon's paper was discussed by Drs. A. S. Jones, C. F. Jaskiewicz, Cole D. Genge, and H. A. Stiles.

At the business meeting following the meeting, Drs. Victor A. Politano, of Milton, and C. P. Conklin, of Huntington, were elected to membership.

A special meeting of the Cabell County Medical Society was held at the Hotel Prichard, December 4, 1946. In the absence of the president, Dr. C. A. Hoffman presided as chairman.

The principal address of the evening was delivered by Mr. Harry E. Northam, executive secretary of the Association of American Physicians and Surgeons. He was introduced by Dr. C. J. Reynolds, of Bluefield. Mr. Northam discussed the activities of the Association in detail.

After general discussion of the matters presented by the speaker, the society went on record as endorsing the Association.

The annual dinner dance of the Cabell County Medical Society was held at the Hotel Prichard in Huntington, Wednesday evening, December 18, 1946. Music for the dance was furnished by Howard Jennings' orchestra. The dinner dance was attended by members and their wives, with members of the medical staff of the Veterans Hospital as guests.

C. A. HOFFMAN, M. D.,
Secretary.

CENTRAL WEST VIRGINIA

Dr. J. N. Reeves, of Charleston, was the guest speaker at the quarterly meeting of the Central West Virginia Medical Society, held in the Community Building, at Gassaway. December 5, 1946. He presented an interesting paper on the "Surgical Treatment of Tuberculosis," the paper being illustrated by slides. A round table discussion followed.

At the business meeting held following the scientific program, the following doctors were elected to membership: J. L. Knapp, C. R. Davisson, and Karl A. Dillinger, all of Weston; and Jack W. Hunter, of Webster Springs.

The following doctors were elected honorary lifetime members of the Society: O. O. Eakle and H. S. Brown, Sutton; L. W. Deeds, Buckhannon; G. M. Burton and S. H. Burton, Weston; J. B. Dodrill, Webster

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Springs; H. O. Van Tromp, French Creek; and Charles B. Rohr, Alum Bridge.

Drs. Ralph M. Fisher, of Weston, and B. L. Page, of Buckhannon, were elected members of a committee to arrange for the organization of an auxiliary to the Central West Virginia Medical Society.

J. M. COFER, M. D.,
Secretary.

EASTERN PANHANDLE

At a meeting of the Eastern Panhandle Medical Society, held at Martinsburg, December 11, 1947, the following officers were elected for the ensuing year: President, J. K. Guthrie, Martinsburg; first vice president, Marshall Glenn, Charles Town; second vice president, A. W. Armentrout, Martinsburg; secretary-treasurer, G. O. Martin, Martinsburg (reelected); and board of censors, W. A. Wallace, Martinsburg.

The following doctors were elected to membership in the society: George S. Appleby, of Martinsburg, and S. Oscar Fry, of Charles Town.

—G. O. MARTIN, M. D.,
Secretary.

HANCOCK

The following officers of the Hancock County Medical Society have been elected for 1947: President, E. R. McNinch, Weirton; vice president, Richard E. Flood, Hollidays Cove; and secretary-treasurer, J. M. Brand, Chester.

—E. R. McNINCH, M. D.,
Secretary.

KANAWHA

Mr. Harry E. Northam, Executive Secretary of the American Association of Physicians and Surgeons, was the guest speaker at a special meeting of Kanawha Medical Society held December 6, 1946, at the Daniel Boone Hotel in Charleston.

Mr. Northam discussed the purposes of the AAPS, stressing the need of the membership of the society as a group to help combat socialized medicine. The matter of the endorsement of the principles of this organization was referred to the advisory committee with the request that a report be submitted at the next meeting.

Dr. Philip D. Woodbridge, head of the department of anesthesia of the Reading Hospital, at Reading, Pennsylvania, was the guest speaker at the regular monthly meeting of the Kanawha Medical Society, held December 10, 1946, at the Daniel Boone Hotel in Charleston. His subject was, "Recent Developments in Anesthesia."

At the business meeting following the scientific program, Dr. Edward T. Dunn, Jr., of South Charleston, and Dr. Beatrice Kuhn, of Charleston, were elected to membership in the society.

The following officers were elected for 1947: President, Dr. Spencer L. Bivens; vice president, Dr. Paul R. Revercomb; and, member board of censors, Dr. P.

A. Tuckwiller. Dr. T. P. Mantzz, of Charleston, continues as secretary, having been elected for a two-year term in 1945.

It was ordered that an invitation be extended to the West Virginia State Medical Association to hold the 1947 annual meeting in Charleston. The invitation will be extended through Dr. Thomas G. Reed, of Charleston, member of the Council. A committee composed of Drs. W. P. Black, U. G. McClure and Thomas G. Reed was appointed to make a survey of hotel accommodations available for the meeting.

The society adopted amendments to the by laws submitted by the committee appointed several months ago.

—T. P. MANTZ, M. D.,
Secretary.

LOGAN

The annual banquet of the Logan County Medical Society was held at the Rainbow Grill in Logan, December 4, 1946. The following officers were elected for 1947: President, Fred E. Brammer, Dehue; vice president, Everett H. Starcher, Logan; secretary-treasurer, I. M. Kruger, Logan; delegate to House of Delegates (two-year term), W. P. Hamilton, Chapmanville; board of censors (three-year term), W. P. Hamilton, Chapmanville; and postgraduate committee (three-year term), A. M. French, Logan.

—W. P. HAMILTON, M. D.,
Secretary.

MARION

Dr. Jonathan Forman, of Columbus, Ohio, was the guest speaker at a nutriion meeting held at the Fairmont Hotel, in Fairmont, November 20, 1946. His subject was, "The Physician and Nutrition."

The meeting was sponsored by the Marion County Medical Society and Auxiliary, the Marion and Monongahela Dental Societies, Friends of the Land, West Virginia State Nurses Association, and the State Nutrition Committee.

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WANTED—Assistant for eye, ear, nose and throat practice.—H. D. Law, M. D., Bank of Commerce Building, Charleston, West Va. Phone 34-611.

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WANTED—Tuberculosis Clinician. Duties include organizing and supervising tuberculosis diagnostic and pneumothorax clinics throughout the state, organizing community and industrial x-ray surveys, interpreting x-ray films, and assisting with other related tuberculosis control activities. Must be eligible for West Virginia license. Salary range, $420 to $500 monthly, plus travel. Address inquiries to West Virginia State Dept. of Health, Charleston, West Virginia.

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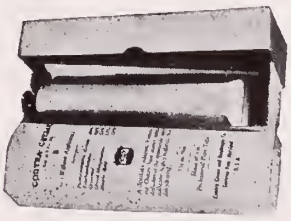

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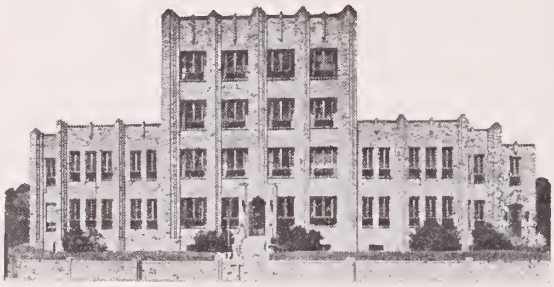

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MELVIN E. LEA, M. D., Assistant Resident in Surgery

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The meeting was a success from every standpoint, and many guests were present from the tri-county (Marion-Monongalia-Harrison) area.

Prior to the scientific program, short dinner business meetings were held separately by the Marion County Medical and Dental Societies.

E. D. WISE, M. D.,
Secretary.

MERCER

The regular monthly meeting of the Mercer County Medical Society was held November 21, 1946, at the Virginian Hotel, in Bluefield.

A full report of the work of the American Association of Physicians and Surgeons was submitted by Dr. C. J. Reynolds. Dr. C. M. Scott was appointed a committee of one for the purpose of keeping the members fully informed concerning the progress of the work of the Association.

The following committee on revision of by-laws was appointed by the president: Drs. C. J. Reynolds, O. G. King, Frank J. Holroyd, and Harry G. Steele.

The society voted to offer a prize of $25.00 to the high school student in Mercer County who submits the best essay on the subject of, "Why the Present System of Medical Practice is Best for the United States."

Dr. C. V. Kechele was elected to membership in the society.

—FRANK J. HOLROYD, M. D.,
Secretary.

POTOMAC VALLEY

Dr. N. H. Dyer, State Health Commissioner, was the guest speaker at the regular monthly meeting of the Potomac Valley Medical Society held at he Old Homestead Hotel in Burlington, December 11, 1946. He discussed in detail the work of his department.

Dr. J. H. Wolverton, Jr., the President, presided at the meeting, which was attended by 16 members.

—E. A. COURRIER, M. D.,
Secretary.

RALEIGH

At the regular monthly meeting of the Raleigh County Medical Society, held December 12, 1946, at the Black Knight Country Club, in Beckley, the following officers were elected for 1947: President, J. E. McKenzie, Beckley; 1st vice president, C. A. Smith, Beckley; 2nd vice president, E. B. Wray, Stotesbury; secretary-treasurer, Fred Richmond, Beckley; board of censors, R. G. Broaddus, D. C. Ashton and D. D. Daniel, all of Beckley; delegate to the House of Delegates, R. E. Newman, Beckley; and alternates, B. K. Peter and M. M. Ralsten, both of Beckley.

—J. M. CORAM, M. D.,
Secretary.

Woman's Auxiliary

HARRISON

Mr. Charles Lively, executive secretary of the West Virginia State Medical Association, was the guest speaker at the regular monthly meeting of the Auxiliary to the Harrison County Medical Society, held December 5, 1946, at the Waldo Hotel in Clarksburg. His subject was, "What to Expect in 1947" and dealt with new bills expected to be introduced in Congress and in the West Virginia legislature.

Mrs. S. S. Hall, the president, presided at he meeting.

—MRS. JOSEPH GILMAN,
Secretary.

RALEIGH

Alice Payne Hackett's book, "Fifty Years of Best Sellers," was reviewed by Miss Eva Keyser, at the regular monthly meeting of the Auxiliary to the Raleigh County Medical Society held at the Beckley Hotel, in Beckley, November 18, 1946.

Mrs. F. S. Harkleroad, the president, presided at the meeting.

—MRS. G. C. HEDRICK, JR.,
Secretary.

NEW J. A. M. A. NEWS EDITOR

Miss Martha Dana, of Plymouth, Michigan, has accepted appointment as news editor for the Journal of the American Medical Association, to succeed Miss Ann M. Fox, who resigned to accept a position with the Education Committee of the Illinois State Medical Society.

ART CONTEST DEADLINE

May 1st, 1947 is, the deadline for entering the $34,000 prize art contest on the special subject of "Courage and Devotion Beyond the Call of Duty" (on the part of physicians in war and in peace). This contest is open to all M. D.'s in the Western Hemisphere. The exhibition will take place in conjunction with the A. M. A. Centennial Session at Atlantic City, June 9-13th, 1947. For complete information, write or wire now to Francis H. Redewill, M. D., Secretary, American Physicians Art Association, Flood Building, San Francisco, California, or to the sponsor, Mead Johnson & Company, Evansville 21, Ind., U. S. A.

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Book Reviews

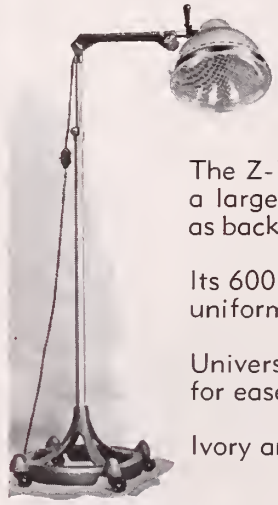
PNEUMOPERITONEUM TREATMENT. By Andrew L. Banyai, M. D., F. A. C. P., F. C. C. P. Associate Clinical Professor of Medicine, Marquette University Medical School, Milwaukee. Price $6.50. Pp. 376, with 74 illustrations. St. Louis; The C. V. Mosby Co., 1946.

This book by Dr. Banyai is the first volume published in any language on the subject of pneumoperitoneum, although many papers discussing it have found their way into the literature within recent years, especially the last decade. One of the interesting points in the history of the procedure is that Banyai himself accidentally gave pneuperitoneum in attempting to give pneumothorax for pulmonary hemorrhage and achieved as good a result as he had usually accomplished with actual pneumothorax. From this accident grew his use of the procedure in the treatment of pulmonary tuberculosis. Banyai has used pneumoperitoneum for practically all types of lung tuberculosis, but its greatest usefulness seems to be in those cases in which, because of adhesions, pneumothorax cannot be successfully accomplished. Usually a phrenic crush is done on the side with the greater lung involvement.

Among miscellaneous applications of pneumoperitoneum discussed by Banyai are prevention of postoperative adhesions, and the treatment of intractable vomiting of pregnancy, persistent hiccough, bronchical asthma, lung abscess, bronchiectasis and pulmonary emphysema. We are especially impressed with his presentation relative to the use of this method in persistent hiccough and intractable bronchial asthma, possibly because past experiences with these two conditions have made us at times wish either that we had never been born or that we had received our scientific education in an agricultural college rather than in a medical school.

One of the most valuable features of the book is the discussion of the general subject of tuberculosis and especially the deviations from normal physiology incident to disease and to the actual pneumoperitoneum procedure, which is infiltrated into the text in a masterly manner by Dr. Banyai from his very complete knowledge of the morbid physiology of the chest.

The format is attractive and the illustrations, which are entirely roentgenological, are especially illuminating. Everything considered, the book presents a complete and well-rounded discussion of the present state of our knowledge of pneumoperitoneum which, while it wil never supplant pneumothorax, is here to stay as an elective procedure in the treatment of tuberculosis as was so well demonstrated by Dr. Sydney Jacobs in his very sane presentation of the subject before the meeting of the Southern Chapter of the College of Chest Physicians at Miami last November.



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RH FACTOR IN PREGNANCY

Much thought and much resultant writing has developed as the result of unfortunate sequalae observed in the transfusions given to women with postpartum hemorrhages. When the fact was determined that these were due to the administration of blood from a donor with the opposite reaction to that of the recipient, provisions were developed by blood banks for cases in which it was needed.

It has been estimated that 15 per cent of the white population of this country comes into the Rh-negative group. As prevention is one of the keystones of adequate medical practice, would it not be more than desirable if the determination be made in all women married or about to be married? Serologic tests for the detection of syphilis are quite generally accepted as a factor in securing marriage licenses. However, the incidence of syphilis among antenatal patients has averaged only about 4 per cent as compared with approximately 15 per cent presenting the Rh-negative factor.

Marriages among what may be designated as mixed blood groups may end disastrously insofar as child bearing is concerned. The first baby may be normal, but succeeding pregnancies may terminate in repeated abortions or in the birth of a monstrosity (fetal hydrops). Again, the pregnancy may reach term, an apparently normal baby is born, only to become afflicted within a week with that often fatal erythroblastosis.

Available knowledge in these matters is not fully crystallized. It is believed that inherent blood types cannot be changed. In time adequate means may be devised to overcome some of the effects of these unfortunate matings, including the treatment of the erythroblastotic infant and postpartum hemorrhages in Rh-negative women with the proper blood. But whether marriage should be denied to those whose blood types do not match is a question not so easily decided. But there should be an awareness of the possible results and means established to detect the condition where it exists.—N. Y. St. Med. J.

MVMS ESSAY CONTEST

The Seventh Annual Essay Contest of the Mississippi Valley Medical Society will be held in 1947. The Society will offer a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics and education) and practical value to the general practitioner of medicine. Contestants must be members of the American Medical Association who are residents of the United States.

The winner will be invited to present his contribution before the Twelfth Annual Meeting of the Mississippi Valley Medical Society to be held at Burlington, Iowa, October 1, 2, 3, 1947.

All contributions must be typewritten in English in manuscript form, submitted in five copies, not to exceed 5000 words, and must be received not later than May 1, 1947. The winning essays in the 1946 contest appear in the January 1947 issue of the *Mississippi Valley Medical Journal* (Quincy, Illinois). Full details may be obtained from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois.

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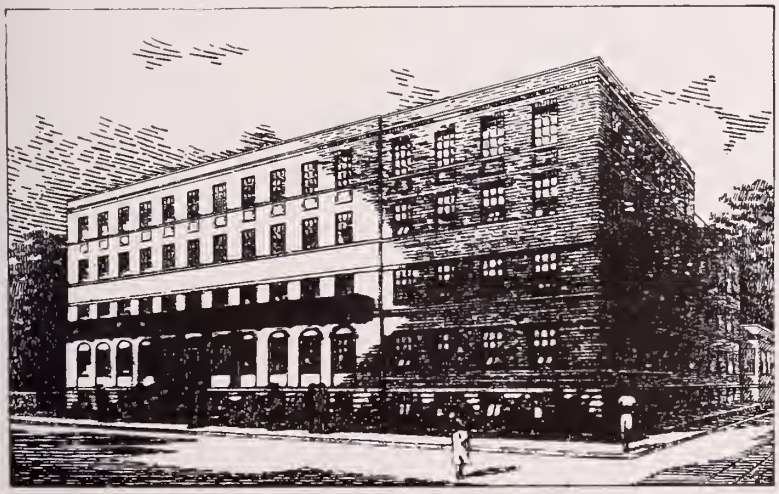

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CORNEAL TRANSPLANTATION

The news releases of the Eye Bank for Sight Restoration and the continuing publicity in the lay press have caused widespread professional and lay interest in the subject of corneal transplantation. Because of this, certain facts should be emphasized. To the public, blindness usually connotes complete loss of sight and light preception. Webster's dictionary defines it as "1. Sightless." When corneal transplants are under consideration, however, only reduction of vision due to opacities in the cornea and the cornea alone, in otherwise healthy eyes, can be relieved by this operation. It is a procedure fraught with numerous complications.

The statistics of one ophthalmologist who has carried out over 900 human keratoplasties show that of all eyes operated upon 2 per cent to 5 per cent are lost, and 10 per cent are made worse, as a result of infection, glaucoma, iritic adhesions, corneal fistula, and other unhappy sequelae. It is generally considered that an eye should be industrially blind (20/200 or less vision) before being subjected to the hazards of this operation. —N. Y. State Journal of Medicine.

POLIO IN 1946

Reports from Washington indicate that the total cases of infantile paralysis in the United States this year may reach between 23,000 and 24,000 cases. The total of 19,029 for 1944 has already been exceeded, placing 1946 as the second worst year to 1916, when the total was 27,363. Although the number of cases is now decreasing, the decrease is not as rapid as usual, according to the report.—Ohio State Medical Journal.

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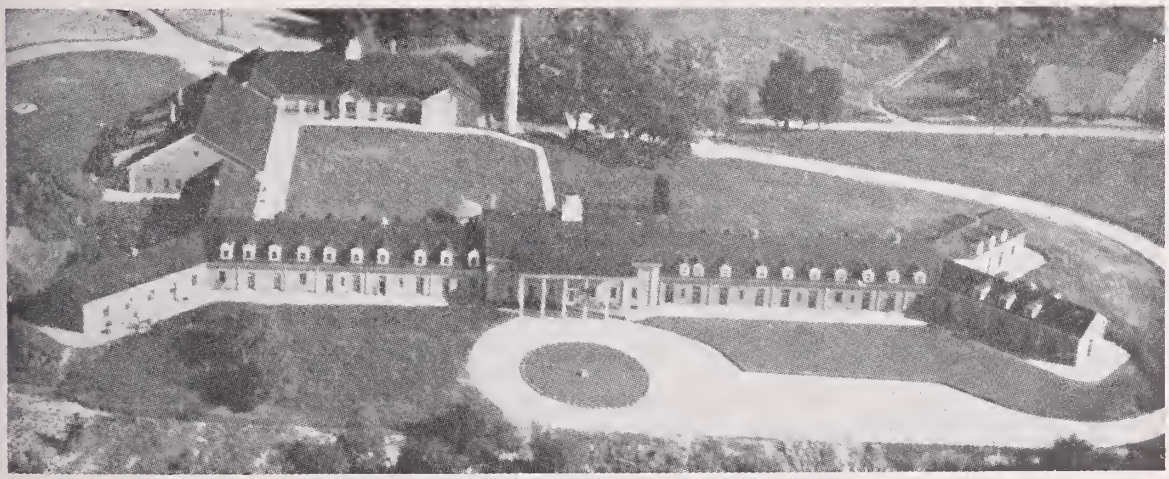

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SOME PUBLIC HEALTH ASPECTS OF RHEUMATIC FEVER*

Including the Present Status of Organized Efforts to Control Its Effects

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What can one do about rheumatic fever? Today, physicians, parents, patients, health officials and many others want to know. Its importance as a medical and public health problem has been brought home to us during the war years by public and professional education coinciding with epidemic-like prevalence of the disease in the armed forces. A rather discouraging answer would have been given 50, 25, or even 10 years ago. Today, three important conditions make it possible to say that there is much that we can do about rheumatic fever. First, a better understanding of its epidemiology, accelerated recently by the unique opportunity to study rheumatic fever in military establishments. Second, the growing number of physicians who are aware of the need to apply this knowledge in community programs of prevention and care. Third, the existence of the American Rheumatic Fever Council as the GHQ in the attack on the disease.

The purpose of my talk will be to review: (1) some of the epidemiological factors which are related to control efforts, (2) preventive measures which have been employed, and (3) the present status of organized action against rheumatic fever and rheumatic heart disease.

*Presented before the State Health Conference, Huntington, West Va., May 2, 1946.

SIGNIFICANT FACTORS IN CONTROL EFFORTS

1. *Need for Diagnostic Criteria*

No disease probably is more difficult to study than rheumatic fever. The lack of a diagnostic test or of accepted diagnostic criteria often makes it difficult to compare one investigator's results with another. One of the most urgent tasks of the American Rheumatic Fever Council is to promulgate criteria. Jones[1] has indicated that the evaluation of control measures as well as knowledge of the incidence is dependent upon comparability of diagnosis. Another reason for rather rigid criteria which he has stressed is the public's keen awareness of the serious implications of the diagnosis.

2. *The Risk of Recurrence*

Control efforts must be judged by, among other factors, the individual's chance or risk of recurrence of the disease. While it has been known that the disease is more common in children than in adults and that children suffer recurrences more frequently than adults, this was not subjected to careful biostatistical analysis until recently. Wilson[2] found that the individual's chance of a major recurrence of rheumatic fever was from two to three times greater in the year following an attack than after one, two, or more years of freedom from the disease. She found age was important also. The risk of a major recurrence in patients aged 4 to 13 years is 25 per cent, or 1 chance in 4. It is 8.6 per cent for patients between the ages of 14 and 16 years, or less than 1 chance in 10. It is about 4 per cent for those between the ages of 17 and 25 years, or less than 1 chance in 20. Thus, she concluded that in predicting future recurrences, the two factors of im-

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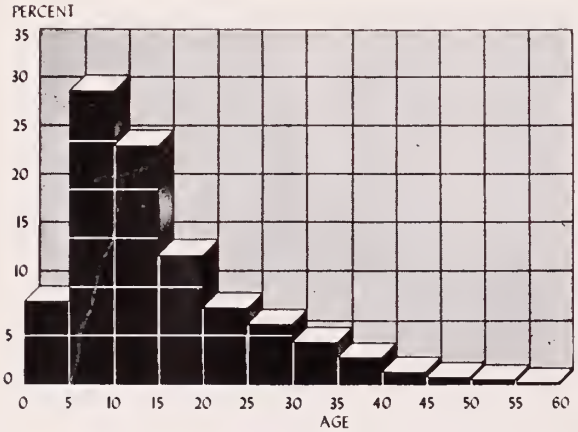
portance are age and the interval of time lapsing since the last attack. These observations will be referred to in discussing efforts to prevent recurrences.

3. *Family Susceptibility*

An epidemiological factor of some importance in the control of rheumatic fever is the high prevalence of rheumatic fever in certain families. Many investigators have studied this problem to determine whether this was due to hereditary or environment, or both. An hereditary factor generally is accepted now as partially responsible at least for the development of rheumatic fever. This assumes a tissue susceptibility to the etiologic agent. But susceptibility is not the whole story. Why does a child apparently have to reach school age before he acquires the disease in recognizable form?[3]



2,535 cases. Philadelphia Hospitals. 1930-1934
(after Hedley)

Age at first attack in RHEUMATIC FEVER

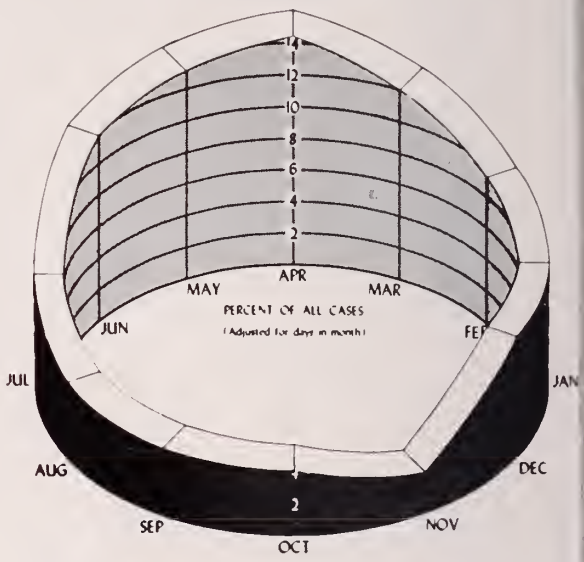
Are there increased opportunities for exposure to the disease in school? Is resistance lowered by certain factors at this time? Why doesn't a child who develops the disease at school age bring it back to the infant and pre-school child in the home? Environmental influences, home, school, and otherwise, are not excluded by the hereditary theory because they have not been intensively studied. The rheumatic family is an important unit in the study of these influences as well as a focus for control measures.

4. *Geographic and Season Variation*

Two facts which have been established about rheumatic fever are its geographic and season variation.[4]

While mortality data and surveys among school age children show that the disease prevails in all

Acute episodes of RHEUMATIC FEVER show a peak in spring

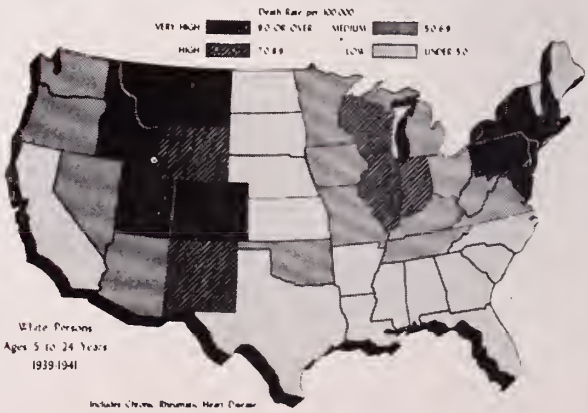


Metropolitan Life Insurance Company,
Nursed Cases under age 20 years, 1936-1938

parts of the country, including the Canal Zone[5], it appears to be more common, perhaps more severe, in some localities. Sampson[6] in a recent survey in several California communities found the incidence of rheumatic heart disease in the northern part of the state was from three to six times that in the southern part of California. This confirms the survey of Paul[7] who found nearly 8 times more cases of rheumatic heart disease among Indian children in the northern latitudes (44°-46°) than among children of the same race in the warmer latitudes (32°-33°).

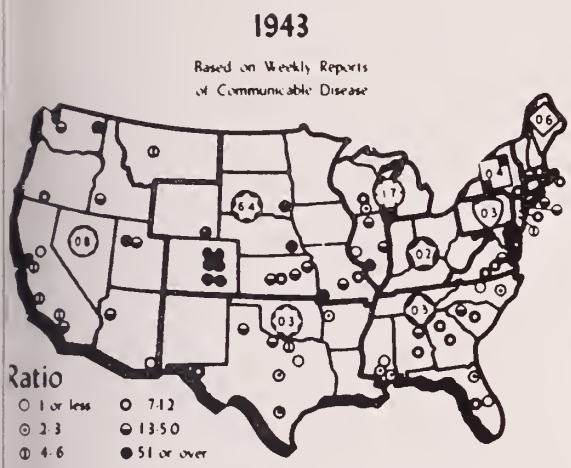
The highest mortality in the United States from rheumatic fever and rheumatic heart disease is in three regions: the Rocky Mountain states, the Great Lakes region, and the middle Atlantic states[8].

Death Rates Show Relative Concentration of RHEUMATIC FEVER in Certain Areas



This challenging geographical variation has been substantiated by the experience of the army and navy with rheumatic fever. In approximately these same regions where mortality is highest, they experienced the highest rheumatic fever sickness rates.

Sickness Rates from RHEUMATIC FEVER in Army Camps

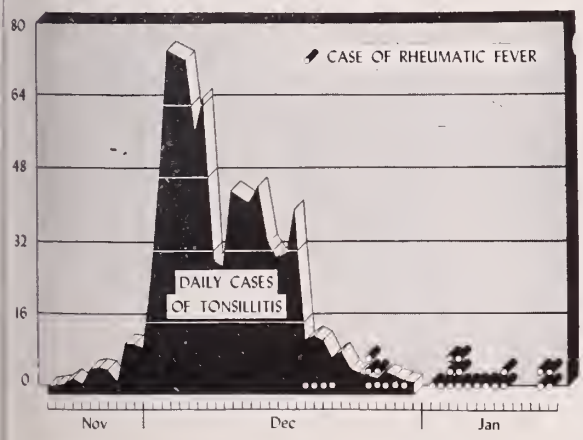


Based upon data supplied by the War Department, Army Service Forces, Office of the Surgeon General

Ratio of Rheumatic Fever Admission Rate in Individual Camps to National Average

There is a well-known season variation which follows the season pattern for respiratory infection.

Example of community outbreak of hemolytic streptococcal infection, followed by high attack rate of rheumatic fever



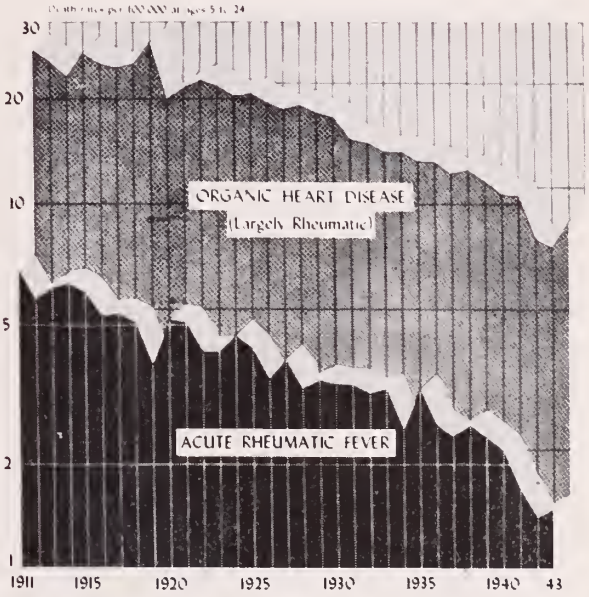
Milk borne epidemic-Denmark, 1926 (after Madsen and Kalbak

Jones[9] has shown that the relationship appears to be closer with beta-hemolytic streptococcus respiratory infection than with respiratory infection due to other organisms.

While the exact etiology of rehumatic fever has not been established the link between the Group A beta-hemolytic streptococcus and rheumatic fever appears to be so close that the burden of proof is on him who says that the hemolytic streptococcus has no relationship to the development of rheumatic fever.

5. *Decrease in Severity*

Another and last factor to be mentioned as important in reviewing control measures against this disease is the decrease in severity. There has been a steady decline in the mortality from rheumatic fever and rheumatic heart disease in young people.



RHEUMATIC FEVER mortality among young people has declined steadily

The chart shows this decrease among the Industrial policyholders of the Metropolitan Life Insurance Company.[10] From 1911 to 1944, the mortality from organic heart disease (judged to be largely rheumatic) and acute rheumatic fever between ages 5-24 declined 27 per cent. The mortality from acute rheumatic fever, it will be noted, began in 1938 to decrease very sharply. There has been a decrease of 38.5 per cent since 1938 for acute rheumatic fever.

In this country, selective service data suggest that there may be less rheumatic heart disease. The chart[11] compares the incidence of two cardiovascular defects in selectees of World War I and World War II.

INCIDENCE OF CARDIOVASCULAR DEFECTS PER 1000 MEN EXAMINED U. S. SELECTEES WORLD WAR I AND II

	Valvular heart disease	Cardiac hypertrophy
World War I (age 21-31)	29.6	4.4
World War II	16.5*	1.8
World War II (age 18-19)	15.9*	0.9

*includes rheumatic heart disease

The rate for valvular heart disease in young men in World War I was about twice the rate of those examined in World War II.

Cardiac hypertrophy was reported more than twice as common in the men examined in 1918. The limitations of this data are appreciated. Nevertheless it is reasonable to have expected with improvement in medical education and diagnosis that examiners in World War II would have been more alert to detect valvular disease and cardiac enlargement than their forebears.

These five factors relative to the natural history of rheumatic fever, then, have to be kept before us in reviewing efforts to control the disease. Some of the factors: climatic variation; concentration in certain families; herding as in school in childhood, or in barracks in military life; and the streptococcal relationship may be utilized in control efforts. On the other hand, the apparent decrease in severity and the diminishing risk of recurrence with age are important factors in evaluating control measures.

MEASURES TO PREVENT RHEUMATIC FEVER

Among the specific measures to control rheumatic fever which have been recommended at one time and another, have been removal to a warm climate, an improved diet, tonsillectomy, salicylate prophylaxis and sulfonamide prophylaxis.

PREVENTION OF THE INITIAL ATTACK

These measures all are aimed at the prevention of recurrences. We have no means of preventing the initial attack. The hereditary or familial aspect suggests that children in known rheumatic families should be kept under close observation to maintain them in the best possible nutrition and to detect the disease as early as possible.

NUTRITION

Good nutrition is undoubtedly of some importance in the prevention of rheumatic fever. It is important probably because it helps maintain body resistance to disease in the way good nutrition helps prevent tuberculosis. There is no proof that specific elements of the diet confer resistance, or that lack of any element will produce the disease. A few years ago Rinehart[12] advanced the idea that a vitamin C deficiency existed in rheumatic fever, based on studies of vitamin C deficiency in guinea pigs which developed rheumatic-like lesions in their hearts and joints. These lesions were later shown to be due to vitamin C deficiency. Ascorbic acid has been given a thorough trial, both in treatment as well as in the prevention of rheumatic fever, with unsuccessful results. Coburn and Moore[13] have reported a close relationship between nutrition and rheumatic susceptibility. Their studies revealed the diets of rheumatic subjects to be deficient to so many components that it was not possible to evaluate the importance of any one dietary essential. Peete[14] has directed attention recently also to the importance of diet including vitamins A and D. While there may not be conclusive evidence that a poor diet may be the factor which "conditions the host" as suggested by Coburn, nevertheless we know that a well-balanced diet, preferably high protein, high vitamin diet, is a common sense measure in developing resistance to disease, especially a chronic disease. In fact, it is not unreasonable to believe that the application of our increased knowledge about nutrition and the improved dietary which a larger proportion of our population has had in the past ten years may be in part responsible for the decrease in the observed mortality from rheumatic fever.

CLIMATE

Climate is often thought of in relation to the prevention of rheumatic fever. This is based on the geographic variation of the disease. Nevertheless, the experience with transporting rheumatic children from northern climates to southern has not been as successful as might be thought or was first hoped. While some children do well, in others the disease runs its course—increasing in severity or resulting in death. In Jones'[15] group of 26 children, 3 died and 2 others showed increased activity while in the south. Recently, a report from the Canal Zone[3] showed rheumatic fever was not uncommon there and that the disease had a course as severe as that in northerly climates.

Connor[16], in reviewing the experience of the AAF with rheumatic fever, reports that rheumatic fever patients evacuated to southern Arizona did no better than patients allowed to convalesce in an isolated post with a low incidence of Group A streptococcus. This post was within a radius of only 25 miles from two other stations which had rheumatic fever rates and streptococcus rates

among the highest in the army. It is clear that transportation of civilian patients to southern climates is not a practical solution to the control of rheumatic fever, not only because the disease may recur or remain active in such climate, but also because the economic status of the majority of rheumatic fever patients prohibits such migration. Even when permanent residence in tropical or sub-tropical climates may be arranged without hardship or financial sacrifice, there is danger that such a move will produce a false sense of security and neglect of other more effective practices in maintaining physical fitness, such as an adequate dietary, proper amounts of rest and exercise.

TONSILLECTOMY

Tonsillectomy has been thought to be an important prophylactic measure against rheumatic fever because of the frequent association of tonsillitis or pharyngitis with rheumatic infection. Wilson[17] has shown in a careful statistical analysis that when the age of operation, the period of observation, and the inclusion of suitable controls are considered, the recurrences were just as common in tonsillectomized children and non-tonsillectomized groups prior to 9 years of age and less common in older children irrespective of the presence or absence of tonsils. Other surveys have substantiated this observation. Therefore, the present view is against the routine removal of tonsils because of rheumatic fever susceptibility. A tonsillectomy should be performed in rheumatic fever patients or children in rheumatic families for the same reasons that dictate removal of the tonsils in other patients. The operation should be performed only after the infection has become quiescent

SALICYLATE PROPHYLAXIS

Salicylates used so long to allay the pain and discomfort associated with the active disease, have been tried also in its prevention. The similarity of the manifestations of acute rheumatic fever to those of serum sickness, both clinical and histological, were described by Von Pirquet. The success of salicylates in preventing the development of serum sickness has suggested their use in the prevention of rheumatic fever.

The earlier efforts of Leech[18] in 1930, by Perry[19] in 1933, and by Sleisinger[20] in 1938, were not impressive. Coburn and Moore[21] reported in 1942 that they had administered sodium salicylate in doses of 60-90 grains daily for one month to 47 rheumatic fever subjects who developed pharyngitis and in whom Group A hemolytic streptococcus was cultured from the throat. One developed rheumatic fever and 15 other patients showed a brief asymptomatic rise in the sedimentation rate after the withdrawal of salicylates. Of 139 controls, 57 developed recurrences. If the 15 treated patients with elevated sedimentation rates are assumed to have mild, partially-masked recurrences, the incidence of attacks was equal in the two groups.

Without more convincing evidence of the effectiveness of salicylates, their use in the prevention of rheumatic fever recurrences is of doubtful value. In view of the masking effect of salicylates on rheumatic fever manifestations, it is possible that salicylates may hide the disease rather than prevent it.

PREVENTION OF STREPTOCOCCUS RESPIRATORY INFECTIONS

In spite of the failure to demonstrate the etiological pattern in rheumatic fever, the efforts at prevention which appear to be most promising to date are those which aim at the prevention of hemolytic streptoccus respiratory infection in rheumatic subjects by administering small doses of sulfonamides day in and day out from about October through April.

SULFONAMIDES

Since the reports of Coburn and Moore[22] and Thomas and France[23] appeared in 1939 on the use of sulfonamides to prevent recurrences of rheumatic fever, a number of investigators have reported the prophylactic effect of sulfonamides. At the present time, the evidence falls into two categories: (1) prewar experience, based on the use of the drug mainly with juvenile rheumatics, in other words, with a known group of susceptibles, and (2) war experience based on the use of the sulfonamides on a healthy population containing an unknown group of rheumatic susceptibles. The former experiments were aimed at the prevention of rheumatic fever; the military mass prophylactic programs attempted to reduce streptococcus respiratory infection and other disease directly affected by the sulfonamides, e.g., meningicoccus meningitis, venereal disease and pneumococcus pneumonia. Relatively few studies were made by the military authorities to evaluate the effect of sulfonamide prophylaxis on rheumatic fever.

CIVILIAN STUDIES

If one sums up the civilian studies, a majority of which appears in the table, it is obvious that differences do exist between the treated and untreated groups.

RHEUMATIC FEVER
SULFA PROPHYLAXIS
CIVILIAN STUDIES

	TREATED		CONTROL	
	Season Cases	Recurrence	Season Cases	Recurrence
Thomas[23]	79	2	150	21
Coburn[22]	188	1	146	31
Stowell[24]	7	1	14	4
Kuttner[25]	108	1	104	28
Chandler[26]	46	1	41	5
Hansen[27]	151	7	58	27
Total	579	13	513	116
Recurrence rate/100 cases	2.3		22.6	
Deaths	None		6	

On the other hand, when Wilson[2] applied her rates of recurrence according to age to these studies individually, she found they were not comparable. The age distribution and the periods between attacks had not been controlled to prevent bias which because of the small number of cases reported in each study could cause the difference observed between the treated and untreated groups. One study, however, which seemed to stand up even to this severe test is that carried out by Dodge and Baldwin[28]. They observed 19 recurrences out of 101 patients in their control group and 4 recurrences among 88 patients treated with sulfonamides.

Hansen says that at the Children's Clinic at the University of Minnesota in the three years prior to the use of drug preparations, there were 27 deaths. In the three years in which the sulfonamides were used prophylactically, there were only 6 deaths, in spite of a marked increase in the number of rheumatic children seen at the hospital because of the prophylactic program.

MILITARY EXPERIENCE

Experience in the army and navy has been somewhat contradictory. Coburn[29] has reported marked success with the use of sulfonamides in the reduction of rheumatic fever among naval personnel. Connor, on the other hand, in summarizing the total experience of the AAF concludes that prophylactic administration of sulfadiazine did not lower the incidence of rheumatic fever.

From the evidence to date, on the use of sulfonamides to prevent rheumatic recurrences, we are still in the study stage. Certainly the military experience with mass prophylaxis is not encouraging. In fact, the risk of encouraging drug-resistant strains of hemolytic streptococci forbids any effort to use sulfonamides on a mass scale in the civilian population. On the other hand, the use of these drugs with known rheumatics should be more carefully studied because they are promising and may prove to have some place in a prevention program. After all we are chiefly interested in preventing heart disease. Recurrences increase the damage to the heart. For example, their use may be limited to the first post-attack year when the risk of recurrence is greatest; to preoperative and postoperative periods. There are many problems of choice of drug, dosage and method of administration, which must be worked out before we know the applicability of these drugs to the control of rheumatic fever and rheumatic heart disease.

We must bear in mind also that other control measures such as identification and segregation of cases of hemolytic streptococcus infection, prophylactic use of penicillin, dust-control measures, or air sanitation by ultraviolet radiation and the aerosols now under current study may prove to be more practical than sulfonamides in reducing respiratory infection due to the hemolytic streptococcus.

COMMUNITY PROGRAMS

We have reviewed specific measures, and their limitations, employed to prevent rheumatic fever and rheumatic heart disease. This is only one aspect of the management of rheumatic fever.

NEED FOR ORGANIZED MEDICO-SOCIAL ACTION

The chronic and complex nature of the disease produces, not unlike tuberculosis, certain problems which cannot be solved by the physician operating alone. For example, the difficulty of diagnosis suggests that diagnostic or consultation service be made available to the practicing physician. Its tendency to recur calls for education of parents, teachers, social workers and others in daily association with the child to enable them to recognize the manifestations suggestive of rheumatic activity. The prolonged and expensive care usually necessary during the active and convalescent stages implies that such care is often a community responsibility. The crippling effect of rheumatic heart disease suggests the importance of occupational guidance in certain cases. Proper organization applied to the solution of these problems would undoubtedly minimize the effects of the disease and conserve lives. The community health and welfare agencies capable of meeting these needs must cooperate under medical leadership to provide these services. This calls for organized action.

PRESENT STATUS OF ORGANIZED ACTION

A start has already been made. The Children's Bureau, since 1939, has been assisting state agencies to develop services for children with heart

disease. In January, 1944, the American Heart Association began to unite the many national professional groups interested in rheumatic fever by sponsoring a conference in New York City. This was attended by some thirty delegates representing the various medical, governmental, and social organizations. At this meeting the following resolutions were adopted unanimously:

1. Because of the magnitude and importance of the rheumatic fever problem, this conference is strongly in favor of the extension of public programs supported by federal, state, and local funds, for the study, prevention, and treatment of this disease. Moreover, we believe it essential that additional funds be secured from private sources for the purpose of special studies to increase basic knowledge of the disease, for professional education and for increasing public awareness of the problem.

2. In order to accomplish the purposes mentioned above, this conference recommends that a Council on Rheumatic Fever be formed under the leadership of the American Heart Association, and that this Council shall include representatives of interested organizations.

Following this conference, the Board of Directors of the American Heart Association met in February, 1944, and proceeded to form a Council on Rheumatic Fever. The American Public Health Association, American Medical Association, American College of Physicians, American Academy of Pediatrics, American Rheumatism Association, National Organization for Public Health Nursing, American Nurses Association, American Hospital Association, and American Association of Medical Social Workers have named their delegates to this Council which held its first official meeting in December, 1944.

In one state and a few of the major cities, heart associations have initiated rheumatic fever educational campaigns. There is a growing list of states and cities where case-finding surveys have been started. To create more beds for care, in some localities tuberculosis preventoria for children and other idle institutions are being converted to the care of rheumatic fever victims. In a few communities, diagnostic service for school children has been instituted. Through special home-visiting service, visiting nurse associations are aiding in preserving continuity of medical care. While these activities represent progress, there are a few communities where a well-rounded program exists.

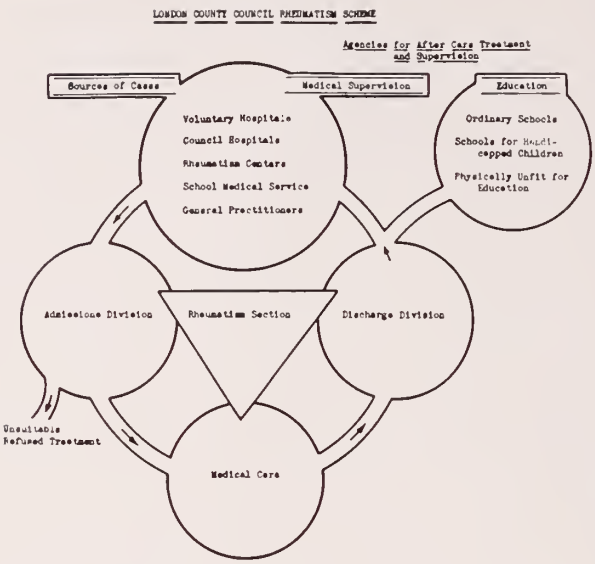
The services of the family physician, the clinic, the hospital, the convalescent home, the school, and the home should be so integrated that the child with rheumatic fever receives adequate care during the acute attack, and regular medical supervision afterward. In this program of community action, the physician and his medical society can and must play a leading part.

ELEMENTS OF A COMMUNITY PROGRAM

There are at least five aspects to a community rheumatic fever program:

1. Case Finding
   a. To determine the magnitude of the problem
   b. To provide baseline for evaluation of future program
2. Diagnostic and Registration Service
   a. To identify the disease, especially in school children
   b. To aid family physicians with the diagnosis
   c. To develop a reliable register of rheumatic fever cases
   d. To coordinate facilities for supervision and care
3. Provision for Care
   a. Adequate hospital care, including sanatorium and foster-home care.
   b. Home nursing care
   c. Housing and welfare assistance
   d. Schooling, occupational and vocational therapy
4. Education Program
   a. Professional groups
   b. Public
5. Research and Evaluation of Program
   a. Hemolytic streptococcus control
   b. Mortality
   c. Prevention or retardation of rheumatic heart disease

Although many of our major cities now possess the resources, there is as yet no community where all the components of a rheumatic fever program have been coordinated comparable to the London County Council's scheme[30].



This is a cooperative effort on the part of health and school authorities. The public and private institutions organized for the care of rheumatic fever children are under the supervision of the London County Council's Rheumatism Section. A full-time medical officer with an adequate staff supervises the institutions caring for rheumatic children. Through this Center, all applications for admission to the special rheumatic institutions pass. There are two types of units, one for active cases and the other for convalescent children who are recovering from recent attacks. On discharge from these hospital units, the patients again pass through the Rheumatism Center which assigns the child to the educational category its physical state requires and to the proper medical supervisory authorities. At the Rheumatism Center each child is registered who has had or is having rheumatic fever. Here such information on his subsequent history is recorded until the child attains the age of 18. Children are reexamined at appropriate intervals by physicians who work out of the Rheumatism Center. These follow-up clinics may be in schools, private hospitals or outpatient clinics. The institutions have both medical and educational staffs. The individual hospital units have all physical provisions necessary for good medical care, including outdoor treatment in bed when such is advisable. The home conditions of all active cases are investigated, and where obviously inadequate or unfavorable, a report is submitted to proper authorities with the object of having these families better housed.

English physicians who have followed rheumatic children for the past fifteen or twenty years feel that the expense of the scheme has been justified by the statistical results. In 1926, for example, 2 per cent of the school children of London were suffering from acquired heart disease, while in 1936, the incidence had fallen to 0.8 per cent. Furthermore, the number of children of school age whose chronic cardiac crippling was of such severity as to require care in special educational units during a four year period has dropped steadily as follows: 1934, 320; 1935, 232; 1936, 153; 1937, 114.

While it would not be possible, or even desirable, to duplicate the London County Council scheme throughout the United States, there are certain principles which can and should be used in adapting the plan to this country. There should be a central responsible agency at state and local levels to coordinate the many facts of care including schooling.

In Syracuse, N. Y., under the direction of Hiss, there is being developed a program which has the potentialities of a community program along the lines of the London County Council scheme. Hiss serves as rheumatic fever consultant to the school medical service. This service is available to all the children in the schools and, through the consultant, rheumatic children are routed to medical care, being brought either to the attention of their own physicians or referred to the hospital service. A rheumatic fever hospital is being established. There is a convalescent school already available and a summer camp to provide important links in the chain of care.

Wedum in Denver has also begun a community program. She points out the importance of determining the local prevalence of rheumatic fever with accuracy before the development of ambitious programs. Lack of this knowledge will make future evaluation difficult. The state programs developed with federal funds from the Children's Bureau, while limited thus far to small areas within the state, have the potentialities of a well-rounded community program. Although it is not yet known with certainty whether rheumatic fever programs are preventing illness or prolonging lives, substitution of good management for the neglect or over-protection which frequently characterizes the handling of these children is enough to make such programs worth while.

SUMMARY

Until the cause of rheumatic fever is isolated, prevention must follow along general lines rather than on one or more specific ones. The concept that a hereditary susceptibility underlies the familial tendency to rheumatic fever seems to indicate that eugenic principles may have a

practical application in this disease. The association of rheumatic fever with streptococcus infections, chilling, and crowded unhygienic living conditions suggest that efforts at prevention should be made with these factors in mind.

Better care of children with active rheumatic infection tends to minimize the effect of cardiac involvement. This means not only emphasis on bed rest and good nursing care in the active and subacute stages of the disease, but for the underprivileged, the correction, as far as possible, through the services of social and welfare agencies in the community, of those socio-economic factors which may influence the incidence and control of the disease. During remissions, attention should be given to regular medical and nursing supervision, good living habits, and occupational training in keeping with the patient's cardiac handicap. Every effort should be made, if the diagnosis of rheumatic heart disease is in doubt, to secure consultation with those who are familiar with cardiac conditions in children. In view of the fact that rheumatic fever tends to be concentrated in certain families, the physician who finds a child with rheumatic fever or rheumatic heart disease should examine other members of the family for evidence of the disease. Organized medico-social effort is needed to bring the services to the child. Community action under the leadership of the medical profession is necessary.

KEY ROLE OF THE PHYSICIAN

Yesterday, the physician treating sick people was a lone worker. Recovery of the individual patient often hinged entirely upon the physician's own therapeutic resourcefulness. Today, in the management of such complex diseases as syphilis, tuberculosis, and rheumatic fever, certain new and technical phases of diagnosis and therapy are apt to be auxiliary to the routine experience and facilities of the general practitioner. Expert laboratory and consultative aid and cooperative group professional arrangements may be more frequently necessary. Today, also, the physician depends upon many other non-medical individuals and agencies to enable him to bring to his patient the complete galaxy of modern medical resources. And yet, as the focal point for these facilities and services, he, the physician, today more than ever, holds the place of leader in community organization for the control and prevention of disease.

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NEW FENESTRATION TECHNIC

The fenestration operation for improving the hearing in otosclerosis was introduced eight years ago. From a small beginning beset with many failures the operation has developed to a highly refined technic that has been carried out with varying success on several thousands of patients suffering from otosclerosis.

It is vital to the development of otosclerosis surgery that its results be made accessible to all otologists so that the merits of any new technic may be judged in comparison with other technics. To this end we keep a record on a "fenestration score board" of the audiometric results in every operated case, and this score board at the Wesley Memorial Hospital is open for examination by any otologist. The score board is kept up to date by periodic retesting of every case several times during the first year after operation and at least once a year thereafter.

Over the past 8 years, my associate, Dr. Arthur Juers, and I have performed and followed 1,088 fenestration operations. Loss of the hearing improvement has occurred to date in 58. Of these 31 have been re-operated and in every instance bony closure of the fistula was found to be present. Therefore, we believe that permanent loss of the hearing improvement after the fenestration operation usually means bony closure of the fistula.

Of the 58 cases that lost their improvement, due presumably to bony closure, 84% lost their improvement during the first post-operative year, and 98% had lost their improvement by the end of the second year after operation. Therefore, we have concluded that osteogenesis causing bony closure of the fistula is most active during the first post-operative year, occasionally it may continue into the second year, but after two years osteogenesis is no longer active and bony closure almost never occurs. The 2-year result of the fenestration operation accordingly may be regarded as the permanent and final result.—Geo. Shambaugh, Jr., M. D., in Illinois Medical Journal.

A REVIEW OF THE VAGINAL SMEAR METHOD FOR EARLY DIAGNOSIS OF CANCER*

(REPORT OF CASES)

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This paper is based on the work done on over two hundred examinations by vaginal smear and cervical smear at the Lahey Clinic, and in my own private practice in Cincinnati.

Papanicolaou[1] first described the technic in 1928 for the detection of uterine malignancies by means of smears from vaginal secretions. Since then the method has been used and described by Papanicolaou and Traut in their latest monograph. Meigs[2] and his associates have published a similar report. They claim that the diagnosis can be made by means of the procedure in 95 per cent to 98 per cent of untreated carcinomas of the uterine cervix, and in 90 per cent of adenocarcinomas of the fundus. Papanicolaou and Traut[1], Meigs[2], and others have stated that an unexpected and important feature of this method is a demonstration of cancer in its earliest manifestations of symptoms, or before lesions are clinically apparent.

A number of cases of carcinoma have been discovered in the earliest stages before invasion of the stroma has occurred. Some of the patients with carcinoma in situ reported by Papanicolaou and Traut[1] had no symptoms and in some cases the biopsy specimen was reported as negative, but the diagnosis of carcinoma was confirmed after hysterectomy had been performed.

Papanicolaou and Traut[1] state that their experience has not been sufficiently extensive to allow them to speak uncompromisingly on the accuracy of the diagnosis of early carcinoma, but they nevertheless feel that the vaginal smear is the only practical method thus far developed which is useful in revealing the very early carcinomatous processes, particularly those affecting the cervix. If subclinical carcinoma is demonstrable by smears, the method may be of incalculable aid in improving the chance of cure in cases of carcinoma of the uterus. This has been stressed by both Papanicolaou and Traut[1], and by Meigs[2], but there are many considerations to be weighed in making the diagnosis and instituting treatment in early carcinoma, and it may not be out of the way at this time to review them.

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We know that cancer of the cervix and body of the uterus is, in most cases, a curable condition provided early diagnosis can be made. This depends on both the awareness of the patient and the readiness of the physician to investigate symptoms thoroughly. The responsibility of the physician in the matter of delay of treatment has been studied recently by Pack and Gallo[3], also by Harms, Plaut, and Oughterson[4]. In the report of the former it was shown that both the patient and physicians were implicated in 18 per cent of the cases studied, and the physicians alone in 17 per cent. The figures in the report of the latter group are similar, 18.8 per cent and 17.4 per cent respectively. It does not seem likely that a physician who, from ignorance or neglect, does not thoroughly examine a patient with uterine symptoms will make intelligent use of the vaginal smear method. Certainly, something can be hoped for from education of both the professional man and the layman.

Periodic examination of apparently well persons is one way of discovering and thereby being able to treat malignant neoplasms in their early stages. Cancer control programs have been organized to this end. Only complete, careful statistics, compounded and studied over a period of years, will indicate the profitableness of this approach. Three recent reports of cancer control programs are interesting inasmuch as they vary in organization and special interest. The Strang Cancer Prevention Clinic for Women[5], New York City, organized by L'Esperance, has provided for complete physical examinations and the follow-up of patients at intervals of six to twelve months. Among 1,103 patients (not all symptomless) examined in five and one-half years, there were 7.6 per cent with malignant tumors, the majority of which were in the early stages. In a similar clinic, The Memorial Hospital, New York, 1.5 per cent of 263 symptomless patients examined were found to have malignant tumors.

Today, only 11 out of 100 women with cancer of the cervix reach the surgeon when the lesion is in the early, operable stage, 29 are in the so-called borderline class as to operability, while in 60 the lesion is totally inoperable when the patient is seen by the surgeon. Thus, delay on the part of both patient and physician is responsible for the majority of deaths from cervical and uterine cancer. A technically simple procedure which would enable one to make an early diagnosis of uterine cancer in the daily office practice would aid greatly in expediting early treatment in these cases.

If the vaginal smear method is proved reliable, it will be a practical means of establishing early diagnosis in office practice. The reliability of the method has been reported as extraordinarily high. The figures given by Papanicolaou and Traut, and by Meigs[2] and his co-workers, correspond closely. The following table shows the small percentage of discrepancy between the diagnosis as made by the smear method and that made as a result of the biopsy, as reported by these writers:

	Papanicolaou and Traut	Meigs et al.
Carcinoma of Fundus		
Number of cases	53	12
Per cent positive by biopsy and negative by smear	9.3	8.3
Carcinoma of Cervix		
Number of cases	127	46
Per cent positive by biopsy and negative by smear	1.6	2.2

Meigs[2] and his co-workers further stated that in a report of 63 cases, independent diagnosis made by two of the authors accorded perfectly, all smears being clearly positive or clearly negative, none suspicious; and that of 163 negative cases, positive smears were reported in 2.6 per cent. Papanicolaou and Traut recently reported that 95 per cent of 40 patients with carcinoma of the uterus showed tumor cells in the vaginal smear. These are remarkable records indeed. Certainly a specimen obtained for biopsy purposes, unless the site is carefully selected, does not give a true picture of the condition of the genital tract in a higher percentage of cases. In spite of this, however, those having the widest experience with these methods are cautious in recommending the vaginal smear as a substitute for biopsy or curettage, and have emphasized the need of confirming the vaginal smear diagnosis by the pathologic examination of tissue before therapy is undertaken. This present restriction limits the advantage of the technic as the conclusive diagnostic procedure.

The diagnosis of cancer of the uterus by vaginal and cervical smears is based on the fact that like all epithelial tissue of the body, the superficial layers of the tumor are subject to continual exfoliation. The exfoliated cells, mixed with the secretions of the uterus and the cervix, find their way into the vagina and may be recognized in the smear of the vaginal secretions. The rate of exfoliation is variable. Certain types of uterine cancer such as adenoma malignum, do not shed as rapidly as others. Adenoma malignum is the well differentiated type of glandular neoplasm which arises in the endocervical

mucosa. It grows very slowly and tends to resemble the normal mucosal membrane, not shedding its cells freely until the growth attains considerable size. This is the only type of cervical neoplasm encountered by Papanicolaou[1] which may not be revealed at an early stage in the vaginal smear preparation.

Papanicolaou[1] reports that his experience with adenoma malignum of the cervix in relation to the vaginal smear, is limited to six cases; of these, only four were easily recognizable from the vaginal smear, while two could not be detected by this technic. According to Papanicolaou, much more experience will be necessary before anything approaching a definite statement can be made regarding this form of tumor.

It was demonstrated by Foot[6] that malignant cells can be recognized in the fluids from the body cavities, for instance, in pleuritic or abdominal fluid. The number of exfoliated cells depends upon the type and developmental stage of the tumor as well as upon the existence and extent of the discharge. It is therefore evident that in a smear prepared from the fluid obtained directly from the endocervix, or from the uterine cavity, the chance of finding the exfoliated cancer cells is much greater than it would be in corresponding smears prepared from vaginal fluid. For this reason, we adopted the principle of obtaining our smear directly from the cervical canal and the surface of the cervix, as will be seen later. The matter of prognostic criteria by which typical and atypical cells of carcinoma can be recognized will not be considered to its full extent. A brief review will be given with the colored microscopic slides. I refer you to the excellent monograph, with colored plates, prepared by Papanicolaou and Traut[1], and the more recent work of Gates and Warren[7], also that of Meigs, for details and description of the differential diagnosis of the cells. In my opinion, this is the most important part of the diagnosis of cancer by the vaginal smear method.

It is of the greatest importance that the slides be read and checked, and the diagnosis made by individuals thoroughly trained in this technic. Our slides were read by Dr. Olive Gates and checked by Dr. Shields Warren, from the Massachusetts State Tumor Diagnostic Service, The Laboratory of Pathology of the Cancer Commission, and the Harvard University College of Medicine.

The technic of taking these vaginal or cervical smears is a very simple procedure. A vaginal smear can be taken by a nurse, or even by the patient herself. The smear is of no value if taken immediately after douching (at least twenty-four hours should elapse). In our series of cases we decided to take cervical smears directly from the cervix and cervical canal, as recommended by Dr. George Bougeois[10] of the Margaret Hague Maternity Hospital, New York. Of course, the vaginal smear has the advantage of being more easily prepared with the fluid which can be obtained without inconvenience or danger to the patient. The procurement of the fluid from the uterine cavity is a more delicate procedure and requires somewhat greater technical skill; however, it is very simple in the hands of any physician.

The equipment necessary is a closed jar to hold a slide containing a fixing solution of equal parts of 95 per cent alcohol and ether, glass slides, a glass writing pencil, diamond point, and a cannula 8 inches long made of glass or metal. We developed for our use an insufflation cannula, size No. 6 French, with a bulb tip with an end opening; upon this is placed a rubber bulb for sucking up the secretion. Later we developed and had made a very simple glass cannula as shown by the slide. The advantages of this instrument, we feel, are that the tube has two side apertures and is very inexpensive. Hence, it is possible to have several sterile, dry tubes on hand. We prepare these in the office in a sterile package, having at least six to eight extra at all times. The slide is marked with an identifying number or name.

TECHNIC

The patient is placed in the lithotomy position and a speculum used. It is better not to use much lubrication. The smear should be made before manual examination. The cannula, having been sterilized and thoroughly dry, is inserted 1½ to 2 cm. into the cervical canal when the cervix is brought into view. The bulb having been compressed before insertion, the cannula then is slowly withdrawn as the compression of the bulb is released rotating the tip from side to side. The secretion thus obtained smoothed and thinned out as in making a blood smear, and the slide dropped at once *before drying* into the fixing solution. This is an important detail because if the smear is allowed to dry the whole cytology is changed. The smear should be fixed at least for fifteen minutes, but may be kept in the fixing solution indefinitely or until brought to the pathologist. It is important in taking the cervical material for the smear not to traumatize the endocervical canal or cause appreciable dis-

comfort or pain to the patient. From this standpoint the instrument should not be an endometrial aspirating curette such as that used in performing endometrial biopsies. The fluid of the uterine cavity is obtained by suction, and retains its normal cytology. Compared with the vaginal smear, Papanicolaou claims that the uterine smear shows a larger number and a greater variety of endometrial and cervical cells, and, as a consequence, the diagnosis of cancer of the cervix, as well as of the fundus, is greatly facilitated.

Our series of cases was purposely made up of patients over thirty years of age regardless of their chief complaint on entering the Clinic, in an endeavor to ascertain the value of this method as a routine diagnostic procedure. Our first 170 cases from which smears were made were reported as follows: (1) frankly positive, (2) atypical cells, suspicious of carcinoma, with the suggestion made for further study, a repeat smear, or biopsy, and (3) negative.

Of the 170 cases, 146 were negative, 5 were positive, and 19 were atypical, needing further attention and study. Of the total of 24 cases which required study, six patients were in their thirties, seven in their forties, none in their sixties, and one beyond seventy. Of this same number, seventeen had positive gynecological findings, and seven had none. We have since run thirty-five additional cases in the Lahey Clinic, and I have made thirty-two smears in my own practice.

CASE REPORTS

Case 1.—A white woman, 39 years of age, first came to the Clinic in February, 1945, complaining of pelvic inflammation. There was no family history of carcinoma. In September, 1944, a vaginal discharge of white mucus streaked with blood had developed, associated with bilateral lower abdominal pain. A diagnosis of pelvic inflammation plus acute endocervical inflammation had been made by her family doctor. She had been hospitalized in November, and treated with sulfonamides and penicillin. The bloody discharge continued and she was then referred to the Clinic.

A vaginal examination showed the cervix to be irregular in outline, the uterus fixed, very tender to motion, and normal in size. A laboratory diagnosis of the smear was frankly positive. Dilatation and curettement were done, a specimen was taken for biopsy purposes, and the report from the pathologist in both instances was epidermal carcinoma, grade 2. The patient is now receiving radiation treatments. This case presented a cervical carcinoma that was not recognizable on visual examination.

Case 2.—A woman, age 42, came to the Clinic on November 17, 1944, because of irregular menstrual flow. There was no history of cancer in the family. She had one child, the delivery having been normal. She stated that in 1939 she began to have menorrhagia; that the periods became longer in duration and that there was always a copious flow. She had been treated in 1937 for cervical ulceration by cauterization of the cervix. She gained forty pounds in weight from 1938 to 1940. In October, 1940, dilatation and curettement were performed, and a diagnosis of chronic hyperplastic endometritis was made. She was given injections of oretone at that time. Menstruation stopped for six months and then continued. The patient weighed 160 pounds. She was given a series of radiation treatments until November, 1944, for the purpose of sterilization. At the time she was seen at the Clinic a vaginal smear was made which was positive for cancer. A second smear was made December 5, 1944, the report of which was negative. On December 29, 1944, dilatation and curettement were performed; practically no material was obtained. Because of a small fibroid in the fundus, and a previous positive smear, hysterectomy was carried out. The uterus was small and contained a small fibroid 2 cm. in diameter on the posterior surface. On opening the uterus there was a submucous fibroid in the posterior wall of the fundus. There was no gross evidence of malignancy. The laboratory report of the operative specimen of the uterus was radiation reaction and a small focus of adenocarcinoma in the fundus, leiomyoma, and chronic endocervicitis. This case is of a great deal of interest because of the fact that in spite of repeated curettement, no evidence of cancer was found. The small growth, beginning adenocarcinoma in the left horn of the fundus, was out of reach of the ordinary small curette.

Case 3.—A 53 year old woman with no history of cancer in the family was seen at the Clinic. The smear was positive for cancer and a clinical diagnosis of cancer was made. Hysterectomy was performed. The pathologic report was adenocarcinoma of the fundus.

Case 4.—A woman, age 47, came to the Clinic because of intermenstrual bleeding for the previous two months, and also because of pain in the back of her legs. There was no history of cancer in the family.

Examination showed the cervix to be inflamed and eroded. The uterus was twice normal size.

The fundus was movable. A smear was positive for cancer. Because the patient had a fibroid also, hysterectomy was performed. The pathologist's report was: (1) intramural fibroid, (2) hyperplastic endometritis, (3) chronic endocervicitis, and (4) no malignancy.

Case 5.—A woman, 48 years of age, came to the Clinic because of gynecologic symptoms. The family history was negative for cancer. She had received a full course of radiation during the previous two or three years for excessive bleeding during the menopause.

On examination at the Clinic, the cervix bled easily. There were no masses. The uterus was small and hard. Vaginal smears made January 16 and January 29, 1945, were reported as suggestive of carcinoma. A third smear taken in February was reported as positive. Hysterectomy was performed. The pathologic report was small fibroid uterus. No malignant degeneration was found.

This case is interesting because although a full course of radiation had been given, the smear was reported as positive.

Case 6.—This patient was seen by me May 29, 1945. She was 54 years of age, and complained of intermittent bleeding and a "tumor in her abdomen." In 1938, she had had a large bleeding fibroid which had been reduced in size by massive doses of x-ray. The bleeding had since disappeared. Since November, 1944, the patient had been having intermittent spotting. She stated that her mother had had cancer.

Physical examination disclosed a heavy-set white female in apparent good health. A mass was palpated in the lower abdominal cavity through the abdominal wall. Vaginal examination disclosed a firm, smooth, round cervix. The uterus was multilobular and in a fixed position. There was a mass in the right and left broad ligaments which was thought to be a fibroid. Vaginal smear was reported as positive for cancer. A Wertheim operation was performed July 18, 1945. The uterus was found to contain several large fibroids. There was a hemorrhagic cyst of each ovary and into the broad ligaments, but there was no evidence upon palpation of any glandular spread. Pathologic report: (1) multiple fibroma of the uterus, (2) hemorrhagic cyst of both ovaries, with no remaining ovarian tissue, and (3) adenocarcinoma of the fundus of the uterus.

Case 7.—A white woman, 41 years of age, seen by me September 18, 1945, was referred by a doctor who had made a diagnosis of subacute appendicitis.

She gave a history of menopause two and a half years previously. She stated that she occasionally had a foul smelling discharge with streaking of blood at times, and that she had been told that she was perfectly normal. She had had one pregnancy, full term, fifteen years previously. She stated that her mother had died of cancer of the uterus.

On vaginal examination, the uterus was found to be small, firm, movable, and without glandular infiltration. The cervix was lightly eroded. A cervical smear was made and the diagnosis was positive for cancer. On September 24, a hysterectomy was done, and a small, hard uterus was removed. The pathologic report was adenocarcinoma 1 cm. in diameter in the fundus.

DISCUSSION

Thus, out of the seven reported cases we have two failures, that is, nonconfirmation of the diagnosis of cancer by pathologic examination following a positive smear. This series, we realize, is too small and with too short a period of observation to allow for definite conclusions. Our results correspond very well with those given out by previous workers in this field. There are, however, some suggestive points: (1) Atypical cells, not very different from carcinoma cells, may be found after the menopause, radiation treatment, or in the case of cervical inflammation at any age. (2) The errors in our cases fall into these doubtful groups. Therefore, a suggestive or positive diagnosis in a patent in any of these groups has not the significance it has in a patient of child-bearing age, without pelvic symptoms.

It has been urged by those who have done the most work on smears that the diagnosis from the smears be not taken as final. Since the reason for this never has been clearly brought out, the warning has not been heeded as it should. From the reports of Papanicolaou and Traut, also Meigs, the diagnosis from the smears is as accurate as that made from the biopsy specimen, unless the specimen is taken from a grossly suspicious lesion. If their figures truly represent the method, it is difficult to understand why it cannot replace the biopsy. From our experience it seems obvious that error in diagnosis by the smear technic is confined to a small group of patients with diseases of the uterus not necessarily malignant. There is no chance of misinterpretation in diagnosis made from smears taken from women in the child-bearing period, with no uterine disease. In spite of the value of vaginal smears, we feel that all positive or suggestive smears should be checked by biopsy.

It has been pointed out that the smear may demonstrate hidden carcinoma without symptoms. We had one such case. In examination of some 3,014 women by this method. Papanicolaou and Traut found only nine cases of hidden carcinoma.

CONCLUSIONS

It is admitted by all who have used the vaginal smear method that diagnosis of cancer demands a great deal of time and experience. The method has not as yet been shown to be a practical labratory procedure for general use, because of the lack of experienced and trained cytologists. We feel that it should have continued study in a large group of cases.

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BLOOD PRESSURE AND AGE

An article by Russek and Zohman, in reporting the results of blood pressure readings on 3,691 men between the ages of fifty and ninety-five, confirms other reports that the systolic blood pressure does increase with age, whereas the diastolic remains about constant. Their figures show an increase in systolic pressures from 138.9, on an average, for the fifty to fifty-four age group, to 174 for the eighty-five to ninety-five group. The average diastolic readings, however, remained around 87 to 90 in all the groups over fifty years of age.

It is reasonable to explain these findings, partly at least, as due to the loss of elasticity in the aorta. It is the elasticity of the arteries, of the aorta particularly, that maintains blood pressure during diastole. Any appreciable loss of the elasticity would tend to a lowering of diastolic pressure, and a compensatory increase in systolic pressure to maintain normal physiologic circulation, would be expected.

If normal blood pressure readings are the average obtained in the examination of large groups of presumably normal individuals, then we may conclude that systolic pressures ranging from 140 in individuals fifty years of age, to 164 in those over eighty-five, can be considered normal, and, roughly, an individual is entitled to a pressure of 100 plus his age.—Minnesota Medicine.

THE PHYSIOLOGY OF RESPIRATORY DISEASES*

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When the Program Committee invited me to discuss the subject of the physiology of respiratory diseases, it seemed such a broad one that I hardly knew what to emphasize or to what portion of it to confine my remarks. However, when I thought about it a few minutes, I came to the conclusion that the most important aspect of the physiology of respiratory diseases is the maintenance and the preservation of the life of the patient and that, in a nut shell, can be reduced to combatting anoxia or oxygen-lack and to administering cardiac support.

One of the major contributions to medicine during the last thirty years has been oxygen therapy. We have known in physiology, for over forty years, that oxygen should be used in the treatment of patients with anoxia and certain types of cyanosis, but it was only during World War I that any means for effectively administering oxygen was introduced on a practical scale and it has been since then that the use of oxygen therapy and the methods for the administration of oxygen have been developed.

As a result, one of the major contributions of medical science to our war effort was the teaching of our aviators regarding the necessity of the use of oxygen for high altitude flying and the development of oxygen equipment for the administration of oxygen, also the determination of levels at which supplementary oxygen should be breathed by the aviator. For example, our air forces supply their men with oxygen to be used at an altitude of ten thousand feet during daytime, because if they do not receive oxygen at that level certain deteriorations of visual function occur. For night flying, eight thousand is the level at which oxygen inhalation is started.

The 100 per cent oxygen supplied on the ship is diluted with air up to the level of 28,000 feet, because at altitudes of 28,000 to 34,000 feet 100 per cent oxygen must be taken into the lungs in order to maintain full oxygen saturation of the blood.

When an altitude of 40,000 to 42,000 feet is reached, 100 per cent oxygen under the ambient pressure at that altitude is not enough to cause oxygen to pass from the alveoli into the blood in a concentration adequate to maintain normal

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*Presented before the 79th Annual Meeting of the West Virginia State Medical Association, at Huntington, May 14, 1946.

function of the brain cells. Thus, if one is to go higher than 38,000 to 42,000 feet breathing pure oxygen, it is necessary to administer the oxygen under pressure. The introduction of the therapeutic principle of pressure breathing made it possible, under certain conditions, for our aviators to climb to an altitude of 45,000 feet. We have even reached in our altitude chambers a simulated altitude of 52,000 feet, and remained there for an hour.

The same principles that we have applied in aviation have been applied in the treatment of patients.

When we ask ourselves what the function of respiration entails, we find that the answer is simply the oxidization of food materials in our cells to release energy.

In the complicated organism, three different organs are concerned in supplying the cells with oxygen: (1) the lungs, (2) the blood, and (3) the heart. These are the three critical organs which are necessary to supply our cells with oxygen and to keep up the vital functioning of the cells.

In regard to the critical need of the various cells of the body for oxygen, there is a very wide difference. For example, the cerebral cells must have oxygen almost constantly in order to preserve their activity. If I were to cut off immediately the oxygen supply to my cerebral cells, I would lose effective consciousness, i. e., ability to write, in about thirty seconds. If I were to cut off completely the oxygen supply to my cerebral cells for a period of from five to seven minutes, irreversible changes would occur in those cells.

To produce irreversible changes in the myocardium, we have to deprive the heart cells of blood completely for from thirty or forty minutes. Skeletal muscle cells can be deprived of oxygen for from two to three hours, and then can be resuscitated, and will function normally.

If we deprive the kidney cells of oxygen for from thirty to forty-five minutes, we produce death in most of the cells.

When we see a patient who has anoxia, we have to think first about getting oxygen into the blood for the support of the cerebral cells and, second, for the support of the heart. Just as soon as there is a deficiency of oxygen in the blood, there is an increase in respiration and an increase in heart rate.

For example, if a 95 per cent oxygen saturation of the arterial blood is reduced to 85 per cent, the heart pumps two or three times more blood than it does under normal conditions. We start to show mental deterioration when the oxygen saturation is 75 per cent; at 70 per cent we are barely maintaining consciousness and the extra cardiac effort that is required constitutes quite a strain on the heart.

If I were to take off my oxygen mask at 35,000 feet, I would be unable to write within thirty seconds thereafter. If I were to put my head, as some miners in this state have done, into a pocket of pure methane gas, I would lose consciousness in from thirty seconds to two minutes.

If we expose animals or humans to from 5 to 7 per cent carbon monoxide in the air, they lose consciousness in from one and one-half to two and one-half minutes. It is as though someone has hit them on the head (that is what some of the miners have said who have gone into a pocket of methane where there is no oxygen at all). They pass out so quickly that they think someone has hit them on the head with a sand bag.

Of course, if they are brought out right away, before the heart undergoes irreversible changes, they can be resuscitated. However, when the blood is slowly deprived of oxygen, the onset of symptoms is much more insidious, and the untrained person cannot determine the symptoms of oxygen lack. He develops mental deterioration so easily that he does not recognize it unless he has been very carefully trained. This is the type of anoxia that we deal with, as a rule, in our patients,—the insidious type which affects the patient so gradually that he does not know it, and frequently, so gradually that even the physician does not recognize it.

As I have indicated, as soon as the oxygen saturation of the blood falls, the heart starts to work faster and harder.

When the oxygen saturation falls to 85 per cent, we begin to get disturbances of other functions, and the heart is working still harder; when it falls to 70 per cent, unconsciousness impends and the heart is laboring to its capacity. The foregoing, I believe, should emphasize the importance and the significance of maintaining the oxygen content of the blood.

There are several factors concerned in the oxygenation of the tissues, meaning, primarily, the heart and brain. One is the integrity of the airway: the trachea, and the bronchi and bronchioles. The second is the adequacy of the ventilating space, the surface area of the alveoli of the lungs. A third is the permeability of the alveolar membrance. If that becomes thickened, as in pneumonosis, a higher pressure of oxygen in the alveoli is required to get oxygen into the blood.

A fourth is the blood flow. If the heart is failing, the blood is not being adequately pumped through the lungs, and this, in turn, predisposes to thickening or edema of the alveolar membrane. A fifth factor is the amount of hemoglobin in the blood. When the hemoglobin declines, there will be a decrease in the amount of oxygen carried per unit volume of blood. In order to compensate for this, the heart pumps faster and puts out more blood per minute. It is possible, for example, for a patient with pernicious anemia, or a grave secondary anemia, to have only 5 gm. of hemoglobin in the blood and get along very well, for the reason that the heart is pumping rapidly.

I should like to go over the rationale of the use of oxygen in the treatment of patients, and explain to you the conditions in which anoxia develops and the conditions in which oxygen works and how it works. Clinically, we see three different types of anoxia. First, there is the stagnant type, i. e., the oxygen content of the arterial blood leaving the left heart is normal but the tissues do not receive a normal amount of oxygen because the blood stagnates in the periphery. The second is the anoxic type: the oxygen content of the arterial blood is less than 19 cubic centimeters of oxygen per one hundred cubic centimeters of blood. The third is the anemic type in which there is a definciency of functional hemoglobin. Carbon monoxide poisoning is an example of the third type. There is a fourth type which the physiologists include, and that is the histotoxic type, in which the respiratory enzymes in the cells are not functioning normally.

The stagnant type of anoxia occurs in a number of conditions. First, cardiac decompensation without pulmonary edema; if pulmonary edema is present, then the blood is not well oxygenated and there is a mixture of the stagnant and anoxic types.

Second, shock. In shock there is an impaired venous return and capillary stasis. In these conditions, the arterial blood is well oxygenated but an inadequate supply reaches the tissues. Thus, we have what we call "irreversible shock." If we let patients stay in shock too long, it is impossible to save their lives regardless of what is done; and one of the primary causes of the irreversible changes that occur in the brain cells and other cells is the permitting of the oxygen content of the tissues to remain too low for too long a period of time.

Shock can occur in abdominal distention. In such a case the first thing to do, of course, is to try to get rid of the distention. Very frequently, this is difficult and time consuming, and, in the meantime, because of the limitation of respiration, the lung alveoli are not being properly aerated, the oxygen saturation of the arterial blood is low, and changes are occurring in the tissues which, if present over a sufficient length of time, will become irreversible. Under such circumstances, even though one is successful in decompressing the abdomen of the patient, death will ensue, due, of course, to irreversible shock.

The anoxic type of anoxia is caused by low oxygen tension in the air, for example that which is encountered in high altitude flying or in cases of congenital cardiac defects such as patent foramen ovale or ductus arteriosus.

Another type occurs in emphysema, in capillary bronchitis, and asthma. In these conditions, the dead air space of the lungs is increased, or some alveoli are collapsed. Thus, the blood flows through without being properly oxygenated, that is, we have an arteriovenous shunt. The venous blood is being shunted into the left side of the heart. In collapse of the lungs or atelectasis of the lobe of a lung, also, the blood flows through without being oxygenated. However, in pneumothorax and hydrothorax, the blood vessels tend to be compressed and the blood is shunted largely to the good lung.

For example, when one produces an artificial pneumothorax for the treatment of tuberculosis, the pressure which brings about collapse of the lung at the same time prevents, in most patients, a flow of venous blood through the lung. The same is true in most cases of lobar pneumonia. The consolidation itself decreases the flow of pulmonary arterial blood through the consolidated alveoli. The broncho-arterial flow, of high pressure, is still going through the consolidated lung. But occasionally one sees patients with pneumonia in whom the cyanosis and anoxia are out of proportion to the degree of consolidation; in the cases of such patients we can account for the extent of anoxia and cyanosis only on the basis of an arteriovenous shunt.

In bronchopneumonia or lobar pneumonia, the alveoli about a consolidated area show atelectasis; this is sometimes referred to as passive atelectasis or partial collapse of the alveoli. It is important to keep this fact in mind because it is a reason for the use of oxygen therapy in the management of pneumonia.

Another source of anoxia is shallow breathing. Shallow breathing does not adequately ventilate the air in the alveoli. Carbon dioxide diffuses through the alveolar membrane more readily

than does oxygen. When one breathes rapidly and shallowly relatively more carbon dioxide is eliminated from the blood than oxygen is taken in, thus causing a decrease in the oxygen and the carbon dioxide content of the blood. This type of breathing (with the aforementioned results) occurs in the early stages of pneumonia and probably is due to pain reflexes set up by associated pleurisy, plus inflammation of the vagus nerve endings. You may recall from your course in physiology that the vagus nerves supply the lung with sensory nerves, the function of which is to limit inspiration or to inform the respiratory center when enough air has been taken in. If these vagus nerve endings in the lung are inflamed, they will be hyperirritable, and, as a result, impulses from the lungs will stop inspiration before it is actually complete.

Another cause of anoxia or decreased oxygenation of the blood leaving the lungs is a marked reduction of vital capacity due to consolidation or edema. A reduction of the normal vital capacity of the lungs by 40 per cent enforces bed rest. This reduction is rarely attained, however, before the patient with pneumonia is forced to bed, either because of chills and elevation of temperature, or because of marked shortness of breath due to involvement of the pleura, or because of vagitis of the pulmonary branches of the vagi.

Another cause of undersaturation of the arterial blood with oxygen is a decrease in the permeability of the pulmonary epithelium to oxygen, referred to as pneumonosis. This can be due to swollen or edematous alveolar epithelium, to the inhalation of irritant gases, to cardiac decompensation, or under-oxygenation of the arterial blood in the bronchial artery supplying the lungs. The inhalation of 60 per cent oxygen is of definite benefit in pneumonosis, because an increase in the partial pressure of oxygen in the alveoli increases the rate at which oxygen diffuses across the swollen epithelium.

Next, we have the anemic type of anoxia of which carbon monoxide poisoning is an example. The carbon monoxide unites with the hemoglobin in the red blood cell, thus rendering it incapable of carrying oxygen. A grave anemia, such as pernicious anemia, is another example.

As soon as anemic patients start to exercise, they experience shortness of breath. We must remember that this is true, also, of patients who have lost blood, and that it is important to supply red blood cells if the tissues are to have sufficient oxygen. That is why, in the hemorrhage cases in the war, it was found that there was no substitute for whole, fresh blood. Plasma did not work well in the cases of soldiers who had lost a lot of blood, since these men needed red blood cells to carry oxygen to the tissues in order to keep the cells in good functioning condition so that shock and other disturbances would not result. In cases of hemorrhage, plasma is only a substitute for whole blood.

We should keep in mind also that some patients who have pneumonia have anemia as well. This is particularly true of children with pneumonia. In such cases it is important to give oxygen, but it is more important to give a blood transfusion in order to increase the capacity of the blood to carry oxygen. We should investigate always the hemoglobin level of the blood of our patients with pneumonia, and if it is not adequate, we should give them whole blood in order to assist the heart, because the heart is carrying the load in the pneumonia patients and needs a good supply of oxygen to carry on its work.

It is interesting to note that although we recognize cyanosis as the sign of anoxia, there are certain situations where that sign fails. For instance, a patient suffering from pernicious anemia or from anemia due to hemorrhage, and having only 5 Gm. of hemoglobin per hundred cubic centimeters of blood, cannot show cyanosis because 5 Gm. of oxygen-free hemoglobin must be present in one hundred cubic centimeters of blood for cyanosis to be present. So, in the presence of anemia the anoxia is out of proportion to the degree of cyanosis, and if there are only 5 Gm. of hemoglobin per hundred cubic centimeters of blood, cyanosis will never be manifest. Thus, in cases of anemia, cyanosis is not a reliable sign of the degree of anoxia.

When oxygen therapy is used in the treatment of pneumonia, first, the cyanosis clears up or is definitely relieved because the increased tension of oxygen in the alveoli, which are partially collapsed and edematous, causes a greater diffusion of oxygen into the blood. The heart rate and output are decreased because the oxygen supply to the myocardium is improved and the heart does not have to work as hard to supply itself with oxygen. Respiration is frequently decreased because the degree of anoxia is lessened. There is a reduction of temperature since less heat is produced due to a decrease in restlessness and respiratory effort. There is a decrease in cough and expectoration. These factors contribute to a favorable outcome.

Should all cases of pneumonia have oxygen therapy? Theoretically, all cases should have oxygen to relieve the embarrassment of the heart because of the fact that anoxia is present before

cyanosis becomes apparent. The prevention of cardiac embarrassment due to anoxia is easier than the cure. In view of the consolidation of the lung, the heart already has extra work to do, and the cardiac reserve should be conserved by relieving the heart of an extra load due to anoxia.

Practically, we know that in many cases there is enough reserve and resistance present to combat pneumonia successfully with nothing more than good nursing care. Yet, without oxygen, the patient is under-protected and the practical question is, can the patient or someone else pay for this extra protection?

In cardiac insufficiency, the cyanosis is due to sluggish circulation in the periphery, to sluggish circulation in the lungs, and to edema of the alveolar epithelium. Later, fluid collects in the alveoli, but anoxia is present for some time prior to the occurrence of the signs of pulmonary edema. Oxygen therapy is of benefit whenever there is reason to believe that the pulmonary epithelium is edematous. Cases have been reported in which the decompensated heart did not recover until oxygen therapy was given. A number of physicians believe that oxygen has saved the lives of patients having acute coronary occlusion.

In the beginning I stated that the crux of the applied physiology of respiratory diseases, in so far as maintaining and saving life of the patient are concerned, is to combat anoxia and to provide cardiac support. The successful combatting of anoxia is an important means of providing cardiac support.

Oxygen therapy has been used in the treatment of persons with angina pectoris, also in cases of bundlebranch block to tide the patient over the acute strain of the disease or until the cardiac mechanism has had time to compensate. It has been used in cases of carbon monoxide poisoning and of surgical or traumatic shock.

The importance of oxygen in the treatment of persons with skull fracture was demonstarted a number of years ago by Doctor Schnedorf and Doctor McClure at the Henry Ford Hospital. Oxygen therapy has been used in the treatment of premature or full term infants with cyanosis or asphyxia of the newborn. It is important, when the baby is born blue or the respiratory efforts are inadequate, to correct the cyanosis or to give oxygen as soon as possible in order to preserve the integrity of the brain cells.

In cases of infants with breathing difficulties, the important thing is to get the blood oxygenated, after which you can take your time getting the respiration back. I am not referring to those cases which respond to spanking or sensory stimulation. I refer to the true cases of asphyxia neonatorum. The important thing is to get the blood red and to preserve the integrity of the cerebral cells so that these infants will not be imbeciles or manifest other neurological sequelae later on.

The emphasis in the treatment of persons with asphyxia due to carbon monoxide, as well as in cases of asphyxia of the newborn, has been improperly placed by some authorities. The important thing is to aerate the lungs, to supply them with oxygen, to get the blood red and to keep it red without injury to the lungs by overexpansion. As a matter of fact, an individual can be kept alive indefinitely, in the absence of natural breathing, by appropriate artificial respiration.

Chairman Beddow: Are there any questions?

Dr. Ivy: The question asked is this: Do you think asphyxia in the newborn may be responsible for the latent development of spastic paralysis in children?

Answer: Yes, in some cases. On experimentally producing asphyxia of the newborn in animals, one observes the occurrence of spastic paralysis and various neurological sequelae including poor learning ability. We see spasticity and ataxia in dogs that have been asphyxiated with carbon monoxide and that have been in a state of high grade anoxia for thirty minutes or one hour.

CONTINUED RESEARCH NECESSARY

The strides made by the biologic sciences within the past decades have greatly lengthened the average life span. A considerable part of this increase is due to our ability to carry children through the hazards of childhood. Pasteurization of milk was a forward step in this program. Development of scientific infant feeding reduced tremendously the dreaded scourge of cholera infantum, or infantile diarrhea. Reduction in incidence of the contagious childhood diseases, by extension of our prophylactic immunization programs, is common knowledge. Unfortunately, however, there are still some serious childhood diseases for which no protective vaccines have been developed.

We are concerned about the recent outbreak of poliomyelitis, yet we know practically nothing about its transmission. Rheumatic fever is another childhood disease of which our knowledge is limited. It is even more crippling than poliomyelitis, although its effects are not as obvious. We can all expect that continued research in these fields will eventually bear fruit. Particularly encouraging are such developments as the adaptation of various strains of poliomyelitis virus to inexpensive laboratory animals, such as cotton rats and white mice. Probably such adaptations will stimulate vital research in this field and will eventually amplify our knowledge of the epidemiology of this disease.—D. W. Van Gelder, M. D., in New Orleans Medical and Surgical Journal.

CANCER CONTROL IN WEST VIRGINIA*

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With the passage of the Cancer Control Law by the 1943 Legislature, and the establishment on July 1, 1944 of a Division of Cancer Control in the West Virginia State Health Department, all the interest and concern about cancer as a major public health problem were crystalized into definite and organized action. West Virginia, being the seventh state to establish a cancer control division in its health department, became one of the leaders of the states engaging in cancer control activities. Since the West Virginia Division of Cancer Control has completed somewhat over two years of activities, it is well at this time to evaluate the accomplishments to date, and to consider the possibilities of further progress possible under the provisions of the West Virginia Cancer Control Law.

Cancer Mortality. The crude death rate from cancer in West Virginia, as elsewhere in the United States, has shown an almost uninterrupted increase during the past decade and today, and for several years past, cancer ranks as the second cause of death, accounting for 1780 in this state and somewhat over 170,000 deaths in the United States in 1945.

In 1933, 1208 people died of cancer in this state, but by 1945 this figure had increased to 1780. The death rate from cancer per 100,000 population also shows an uninterrupted increase from 66.9 in 1933 to 100. in 1945. Figure I shows the number of actual cancer deaths and the cancer death rates per 100,000 population in West Virginia and the United States for the past decade.

This increase in the crude death rate is probably more apparent than actual because of great improvement in diagnostic methods and because of the steady increase in the proportion of older persons in our population. The marked increase of cancer deaths in West Virginia from 1525 in 1944 to 1780 in 1945, or an increase from 87.5 to 100.0 deaths per 100,000 poulation, parallels the experience in other states that have organized cancer control activities. For several years after the launching of a control program cancer deaths show an increase. In West Virginia we can probably expect an increasing number of cancer deaths for many years, since only 56% of our population is over 21 years of age, as compared with 64% for the nation. The median age in West Virginia is only 24.3 years, whereas it is 29.0 years for the rest of the country. With a marked and steady increase in the proportion of older persons in our population, particularly among those over 50 where the incidence of cancer is greatest, we can expect a continued increase in the crude death rate from this disease. This factor must be recognized in planning a cancr control program, and in the evaluation of the success of any such activities.

A much more hopeful and interesting aspect of this situation is the fact that the increasing death rate from cancer has not been uniform with respect to the various types of the disease.

Death from cancer of the skin has shown a marked decrease since 1920. Dublin, in analyzing the data from the industrial policy holders of the Metropolitan Life Insurance Company, stated in March 1945, "among white females the standardized death rate from cancer at ages 1 to 74 declined steadily from 90.4 per 100,000 in 1934, to 80.3 in 1944; a decrease of 11 per cent. It is a striking fact that in the ages 35 to 54 the mortality dropped one-fifth between 1911-1913 and 1942-1944."

Dublin further points out "even among white male policyholders the situation has shown slight improvement in recent years. During the past decade, at no age period beyond 25 years has the cancer death rate among these insurd men increased; in fact, it appears that the mortality has tended downward recently." He concludes, "the organized movement to control cancer is bearing fruit. The educational campaign, which is a vital part of the whole program, is succeeding in having people, and more especially the woman, seek diagnosis and treatment earlier in the course of the disease, when the chances of cure are best."

Cancer Deaths by Site and by Sex. Figure II is a table showing a breakdown of cancer deaths by site and by sex for West Virginia and the United States. Generally the West Virginia figures follow those of the United States with the exception of cancer of the female breast and of the cervix and uterus.

Figure II. Deaths from Cancer by Site and By Sex:

*Presented before the Cancer Committee of the Michigan State Medical Society, at Lansing, December 12, 1946.

Site	West Virginia Male	West Virginia Female	United States Male	United States Female
1. Buccal Cavity & Pharynx	3%	2%	6%	1%
2. Digestive Tract & Peritaneum	55%	39%	54%	41%
3. Respiratary System	7%	2%	8%	2%
4. Cervix & Uterus	----	26%	----	21%
5. Other Female Genital Organs	----	3%	----	5%
6. Breast	3%	14%	2%	18%
7. Male Genito-Urinary Organs	19%	----	19%	----
8. Skin	3%	2%	3%	2%
9. Other Unspecified Organs	10%	12%	8%	10%
	100%	100%	100%	100%

In the United States cancer of the cervix and uterus account for 21% of the total deaths while 18% are caused by cancer of the breast. For the country as a whole, female breast cancers and cancers of the cervix and uterus cause approximately the same percentage of deaths. In reviewing the cancer mortality by site and by sex of individual states this same equal percentage is found.

In contrast, however, in West Virginia cancer of the cervix and uterus account for 26% of the deaths while 14% are caused by cancer of the breast. On the basis of these mortality percentages, it appears that the incidence in our state of cancer of the cervix and uterus is approximately twice as great as that of cancer of the female breast. It is recognized that both cancer of the breast and cancer of the cervix-uterus are in so called "accessible organs," and that when the diagnosis of cancer in these organs is made early and adequate treatment instituted immediately, a 75-80% chance of at least a five year cure is possible.

West Virginia's law relating to the treatment and control of cancer provides for a four point program of: (1) Education, (2) Establishment of tumor clinics, (3) Tissue diagnostic service to all needy patients, and (4) Financial aid in diagnosis and treatment of needy cancer patients,

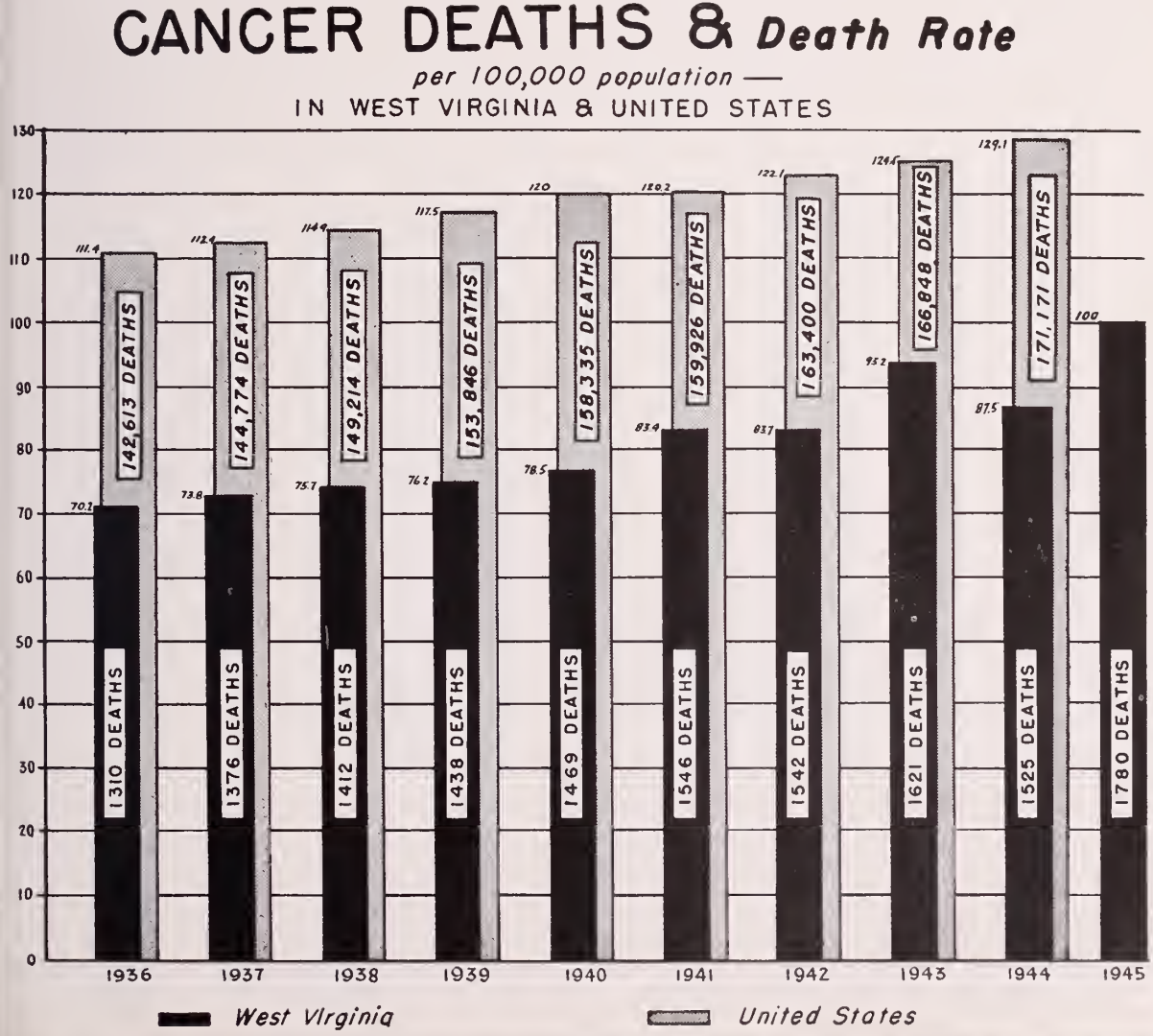

Figure I

within the limits of available funds. Provision is also made that the Division of Cancer Control in the health department shall have authority to direct, control, govern and provide for the management of any state institution for the care and treatment of cancer patients which may hereafter be created by law. Developments and progress in relation to each of the above four functions are described as follows:

I. Educational Program.

The Division has the responsibility of an educational program for the purpose of preventing cancer and of aiding in its early diagnosis. In furtherance of its own program the division may assist and cooperate with any state or national organization conducting an educational program for the prevention of cancer.

The American Cancer Society, with headquarters in New York City, is the recognized volunteer agency that is doing intensive work in stimulating and carrying on a program of education, service to the cancer patient, and research. This society has an organization in every state. In our state it is the West Virginia Cancer Society, Inc., which has a Field Army organization in every county in West Virginia. The Field Army of the West Virginia Cancer Society, Inc., has cooperated to the fullest extent with the efforts of the Division of Cancer Control. This volunteer agency, through its county organizations, has such complete local coverage that it has been most helpful in aiding the division to extend its services into county communities. In several instances where money is available through this organization, definite projects are in operation which are contributing to the control of cancer.

Several members of the Cancer Committee of the West Virginia State Medical Association are also members of the Board of Directors and the Executive Committee of the West Virginia Cancer Society, Inc. The director of the Division of Cancer Control is also a member of the Executive Committee, as well as chairman of the project committee of this society. This interrelationship is resulting in excellent cooperation and an integrated attack on the cancer problem in West Virginia by the medical profession, the lay volunteer group, and the health department. Cooperation is achieved on the local level by utilization of the cancer committees of the local medical societies which guide and advise the local organizations.

Recognizing the fact that 72% of the people in West Virginia live in rural areas, an effort was made to reach this section of the population by means of the weekly newspaper. A series of six cancer educational articles were written which were published in a majority of the weekly newspapers in West Virginia. A pamphlet, "Cancer in West Virginia," and a booklet, "What Do You Know About Cancer?", have been prepared by the division and have been distributed widely throughout the state. A supply of cancer educational pamphlets and posters has been assembled from various sources which is now available for free distribution.

The cancer educational literature prepared by the division has been distributed to every doctor, dentist and hospital in the state, to be made available to their patients. Further distribution of this literature is done through the District, County and City Health Departments, the County Departments of Public Assistance, Family Welfare Societies, the various Red Cross Chapters, the Farm Security Administration, etc. So numerous were the requests for this literature from schools that recently a supply of reference material on cancer was sent to the libraries of all the high schools and colleges in the state.

The division recognizes full well the great responsibility that the family physician has in the early detection and control of cancer, and because of this, much time has been spent in working with the medical profession. Through the excellent cooperation of the Cancer Committee of the State Medical Association, it has been the privilege of the director to discuss the cancer program with practically all the component societies of the West Virginia State Medical Association. All physicians in the state have displayed a keen interest in all cancer control activities, and needy cases have been referred by them to such organizations from all counties in West Virginia.

II. Establishment of Clinics.

The Law provides that the division shall establish and maintain, or aid in the establishment and maintenance, of a sufficient number of approved cancer diagnostic and treatment clinics so located that they are within reasonable access to every citizen of the state. When the division was organized there were 4 tumor clinics in operation in the state but at the present time there are 12. Regular tumor clinics are held as follows: 2 in Charleston; 1 each in Huntington, Bluefield, Clarksburg, Montgomery, Parkersburg, Philippi, Wheeling, Fairmont, Morgantown and Elkins. These tumor clinics and treatment centers are operated under private auspices for cancer patients. The development of tumor clinics has

been encouraged in relation to local general hospital facilities rather than the setting up of so-called "state" clinics.

Provision is made by the cancer law for the establishment of tumor clinics under the direction of the State Health Department, but thus far the needs are being met by the medical profession and the hospitals. This is a very desirable circumstance, since the responsibility of the cancer patient should remain with the individual patient and his or her own physician and hospital.

III. Tissue Diagnostic Service.

Tissue diagnostic service is rendered to needy cancer patients under the treatment phase of our program. This work is carried out through privately owned laboratories where qualified pathologists are available. One of the most urgent needs for the diagnostic and treatment phase of the cancer control program in this state is the need for more qualified pathologists. Facilities are not available in the State Hygienic Laboratory to do tissue diagnostic work.

IV. Care of Needy Cancer Patients.

For the Division of Cancer Control to extend financial assistance to needy cancer patients two factors must be known: (1) Diagnosis of or a suspected diagnosis of cancer. (2) Financial need must exist.

To facilitate these referrals two forms are in use. The application form which gives the financial status of the applicant, and the physician's preliminary report form which establishes a diagnosis or a tentative diagnosis of cancer. The preliminary medical report is completed by the patient's own physician.

A person may apply for care through the District, County and City Health Departments, the County Departments of Public Assistance, the Family Welfare Societies, and the various Red Cross Chapters. These agencies are used only as referral sources since eligibility for care is determined by the Division of Cancer Control. Full recognition should be accorded the County Health Departments and the county units of the Department of Public Assistance for their fine cooperation in making financial data available in individual cases.

When a needy cancer case has been accepted for care, the patient is directed to his nearest tumor clinic or treatment center for concurrence of the diagnosis and for treatment by the three accepted methods of cancer treatment: surgery, x-ray or radium. Authorizations are issued to the physician in each case and the cost of hospital care is also paid for needy patients.

During the past two years 1119 referrals have been reviewed; a number far greater than was anticipated at the time the program was inaugurated. Of the total number of cases referred, 84% have proved to be malignant.

Active Cases:

1. Cervix-uterus	27%
2. Skin	39%
3. Male Genital	3%
4. Breast	12%
5. Digestive Tract	2%
6. Respiratory	1%
7. Unspecified	10%
8. Other Female	1%
9. Buccal Cavity	5%
	100%

Due to the large number of referrals, the division has found it necessary to limit its program to those needy cancer patients who present a good prognosis. It must be recognized that cancer treatment is expensive, and the division has the responsibility of carrying out a four point program of cancer control activities rather than only a medical care program for needy cancer patients. Through joint planning, an agreement has been reached with the Department of Public Assistance which will partially solve this urgent problem. When a cancer case is determined by a cancer specialist to be incurable, the Department of Public Assistance will, if the case meets the eligibility requirements of that Department, assume the cost of necessary palliative treatment or other medical care which may become necessary in order to relieve extreme suffering and provide for the individual a reasonable amount of comfort.

The physician realizes full well that much more can be accomplished in the control of cancer when the patient reports to him in the earliest stages of the disease. Increasing emphasis, therefore, must be placed on the educational phase of the cancer control program.

In this review of the accomplishments in the past two years of official cancer control activities in West Virginia, it is evident that a great deal of progress has been made. In these developments much credit is due to the medical profession since it has, as individual members and through its official societies, given excellent cooperation in all phases of this program.

Keen interest in the cancer problem has been displayed by individuals and organized groups and this has resulted in strengthening the attack on cancer. West Virginia is fortunate in having

two organizations devoting all their efforts toward cancer control: an active non-official agency, the West Virginia Cancer Society, Inc., that depends for its support on the voluntary contributions of the citizens; and a tax supported official agency in the health department. With a continuation of this integrated attack by the medical profession, the lay volunteer groups and the Division of Cancer Control, continued progress can be anticipated in the next few years.

HEALTH GUIDANCE IN OLD AGE

Childhood was formerly considered the most critical period of life. Children were expected to be sick, to be deformed, and to die. Then about the turn of the century we discovered that childhood and youth were phases of life based on specific biological laws, and that aging was the law of life in childhood and youth as in maturity and age. The result of this discovery and its acceptance was the dramatic development of child hygiene and pediatrics. The most dangerous diseases of childhood were practically wiped out; the mortality of infants was reduced to a minimum; well babies and children were made healthier and stronger; and we entered what has been called the "Century of the Child."

The expectancy of life has been increased from approximately forty-eight years in 1900 to approximately sixty-five years today, and we are now obliged to give some attention to the rapidly increasing part of our population which is reaching advanced years of life. We have considered the aged as hopeless victims of physical and mental deterioration, and we have too often treated them either as decrepit children or degenerated adults. In reality, the aged constitute a human species in their own right, not inferior speciments by any means, but full of potential energies and values which are now either largely repressed or wasted.

The need to learn about aging is urgent. Longer life without health is not only an individual tragedy, but it is a social evil that constitutes a threat to national economy. Increased life with health and useful vigor may be made an increasingly valuable asset to society. The future course of events, whether toward economic destruction or toward a progressive enrichment of life, will depend upon the application and experience of medical knowledge to the aging. Such is the vast responsibility of Geriatric Medicine.—William F. King, M. D., in J. Indiana St. Med. Assn.

SYPHILIS AND PENICILLIN

The eventual value of penicillin in syphilis is still uncertain, and its ultimate status will not be established for several years to come. To be sure that syphilis has been successfully treated by any new procedure requires a long period of observation, measured in terms of years, not months. Every physician thus has a particular responsibility for the careful follow-up, serologic and clinical, over a period of years of every penicillin-treated case of syphilis that he sees, whether the penicillin was received in civilian life or during military service.—New England Journal of Medicine.

ROENTGEN SICKNESS CONTROLLED WITH PANCREATIN*

By WILL A. QUIMBY, M.D.
Wheeling, West Va.

The lengthy exposure of a human being to high voltage x-ray usually results in a group of unpleasant symptoms we call 'roentgen sickness'. These symptoms undoubtedly are due to the products of quickly increased cell destruction.

Roentgen sickness has been considerably minimized by the fractionated doses of x-ray. Along with the idea of slowing down administration of rays it is a noteworthy fact that no irradiation sickness has been encountered when, in my own work, I have elected to give treatment with a radium pack, namely, slower cell destruction.

In order to obtain full cooperation of a patient through a series of x-ray exposures, it has been found advisable to administer at the time of the first treatment such a dose as probably will cause no nausea and discomfort.

Various methods have been tried in an effort to solve the problem of roentgen sickness. The symptoms of nausea, revulsion to foods, and reverse peristalsis strongly suggested to me the administration of a digestant. Having had a large experience with Pancreatin, and being convinced that it is the best digestant, this glandular substance was given to the patients in my series of cases. In the first patient all unplesant symptoms were allayed.

This brief report is based on uniformly satisfactory results in the high voltage treatment of 12 females: 3 cases of postoperative condition of the breast, 1 case of inoperable cancer of the breast, 1 case of carcinoma of the lung, 7 cases of menorrhagia (menapause).

Pancreatin is provided for these patients in 10 grain double naught gelatin capsules. Three capsules are taken with a full glass of water before each meal, or at the first unpleasant symptom. The dose can be repeated at any hour, but preferably when gastric acidity is at a minimum. Patients report that nausea subsides is from fifteen minutes to one-half hour.

When nausea is almost certain to occur, a better method of administration of Pancreatin is to give the patient immediately after x-ray exposure 100 grains (approximately one teaspoonful) of the substance in a glass of water. Larger quantities

*Presented before the regular staff meeting, Wheeling Hospital, Wheeling, May 16, 1946.

are harmless. Any patient who has once experienced roentgen sickness offers no objection to this medication. The enteric coated triple strength 5 grain Pancreatin tablet is obtainable, if preferred for any reason.

Pancreatin is a powdered extract of the pancreas containing principally trypsin, amylopsin and lipase. Freshness of the preparation adds to the efficacy of these enzymes. How the end products of roentgen exposures of the chest wall, for instance, are met in the small intestines and promptly neutralized by this digestant is not known at this time.

In conclusion it can be said that Pancreatin is a perfectly safe preparation at all times. The dosage has a wide latitude. No harmful effect has been observed from repeated large doses. The simplicity of taking Pancreatin and the prompt relief of symptoms would seem to make the administration of this glandular substance the method of choice for preventing or relieving roentgen sickness.

SQUINT IN CHILDREN

The proper disposition of the child with an imbalance of the extraocular muscles is probably the most important ophthalmological problem facing the pediatrician. He is usually the first to see children with latent or obvious squint; and his responsibility does not end with their referral to an eye man. He should possess some understanding of the muscle imbalances, so that he may aid the child in securing proper care and cooperate in the giving of that care.

It is the important duty of the pediatrician to see that these youngsters do not go into adulthood untreated. At what age then should he refer these children to an eye man? In the stone age of ophthalmology the tendency was to wait in the hope that these youngsters would outgrow their "cross eyes." It is a fact that in a few cases the eyes do become straighter with advancing age, but the number is far too small to make waiting profitable. According to White, the child should be seen within two weeks after the squint is noted. Many children can be started on treatment almost immediately. Many will tolerate glasses at 18 months of age, or even less. It is well to bear in mind the fact that the macula lutae may not attain its full development until the child is about 4 months of age. All infants may periodically appear "cross eyed" before that period, as they do not have the ability to fuse images.

All of us, normally, tend to fuse in binocular single vision; that is, to see simultaneously with both eyes. When there is obstruction to fusion, or when fusion becomes difficult, a deviation of one eye may take place. If this process occurs before the age of 16 the eye will usually deviate in; if after, it will usually deviate out.—Dan M. Gordon, M. D., in J. of Pediatrics.

TWO PROBLEMS IN CANCER

The doctor who treats cancer has two very important problems: (1) The diagnosis, which must be based on a biopsy; (2) The problem of determining when the cancer is cured. The only method available at present is the five- and ten-year survival rates. If the surgery was not extensive enough or if an insufficient amount of irradiation therapy was used, by the time the cancer has recurred only palliative measures can be used. This method of determining the efficacy of treatment is time consuming and very costly for the doctor. Obviously, it costs the patient his or her life.

Forty years ago syphilis in many cases began insidiously, had protean manifestations, was rarely diagnosed, and was improperly treated until the Wassermann test was devised. All other diseases have followed a similar course, that is, physical signs or tests for the disease are always used to determine when treatment should be stopped.

Irradiation therapy in the treatment of gynecologic cancer has been its acme of cure. With modern methods of treating shock and combating infection, radical operations for gynecologic cancer are again used in selected cases. The salvage rates for gynecologic cancer and clinical experience during the past decades are not very encouraging.

Some method, serological or chemical, must be devised by which the doctor can determine within a period of months after the treatment of the cancer whether or not it has been eradicated. If cancer is still present, either a more extensive operation could be considered or more irradiation therapy used. Furthermore, in similar cases in the initial treatment more extensive surgery or an increased amount of irradiation therapy would be used.—W. J. D., in Geriatrics.

THE WELL CHILD

The "well child", at first glance, would seem to be almost too simple a subject for discussion, but more careful perusal reveals its complexities. Our children are the nation's collateral for long term investments. Aside from the purely practical business of admitting that an ounce of prevention is worth a pound of cure, we all agree it is the aim of a democratic society to see that the sick infant or child becomes well and that the healthy infant or child stays that way. Our aim is not to provide husky atomic bomb fodder at some future date, but rather to provide an even start when the children of today have developed to the point they can enter the competitive race of tomorrow.

Synonymous with the "Well child" is the "happy child." Certainly no child is completely well who, though sound of body, has a sense of insecurity in his environment.—D. W. Van Gelder, M. D., in New Orleans Medical and Surgical Journal.

POLIO IN 1946

The incidence of poliomyelitis throughout the country in 1946 has been more than double that of the median for the preceding five-year period. Up to November 2, 1947, a total of 22,937 cases had been reported for the country at large in comparison with 12,342 for 1945, 17,888 for 1944, and the median for the past five years of 11,378.

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The President's Page

Upon the recommendation of Governor Meadows an Interim Committee was created by the 1945 legislature for the purpose of making "a study, survey, and investigation of public health problems, institutional and civilian medical care, hospital service and medical education in West Virginia".

The first accomplished act of the committee was the enactment by the legislature, at an extraordinary session in 1946, of a law defining the status of non-profit hospital and medical service plans and regulating their activities. As in most other states, regulation is placed under the supervision of the state insurance commissioner. The law as enacted is a satisfactory one and is the culmination of much divided effort and conflicting opinions in 1943. It gives to the public probably a greater degree of protection than any other law enacted for the purpose of controlling the operation of voluntary insurance plans.

The committee has completed its work and its recommendations are now being considered by the legislature. These recommendations are concerned mainly with a hospital licensing bill, a mental hygiene bill, and a tuberculosis control bill.

A hospital licensing law, even though proposed at a late date, is now definitely in order. The Interim Committee's bill contains no controversial features and should be enacted into law without material amendments. The bill merely defines what constitutes a hospital and requires all such places so defined to be licensed by the state department of health. Standards and rules and regulations are to be fixed by the health commissioner and an advisory council. Independent of the accepted need for a hospital licensing law, the enactment of a law becomes imperative now if West Virginia is to be assured full participation in the hospital construction program set up under the Hill-Burton bill enacted by Congress in 1946.

The Committee's mental hygiene bill and tuberculosis control bill call for a transfer of medical supervision and fiscal control of mental and tuberculosis hospitals from the board of control to the state department of health. While medical supervision by the health department seemed good and proper, the question arose at once if the transfer of fiscal control would be expedient, if administrative cost would be increased, and if the department would be asked to do a kind of work it was not prepared to do and was never intended to do. It became evident early, in fact, that the two bills as originally written would not receive favorable legislative consideration, and at the last moment the Interim Committee prepared alternative bills. These bills omit any transfer of supervision or control but retain certain commendable features, notably improved admission procedures for the mentally ill and the requirement of patients in both mental and tuberculosis hospitals to pay, where they are able to pay, not over $3 a day for their care. The public health council would retain advisory medical supervision over the mental and tuberculosis hospitals.

Other problems on the Interim Committee's agenda were the extension of public health and more comprehensive care of the medically indigent. A bill has been prepared which would merge city and county health units. The ultimate aim of course is the establishment of a health unit in each county or group of adjacent counties. The care of the medically indigent is still an unsolved problem. A subcommittee recommended a special appropriation of $250,000 to supplement funds in the department of public assistance available for the care of the indigent. It is doubtful if the appropriation would be adequate.

Legislation will not avail anything if what we propose to do is not made possible by adequate funds to pay the cost. This applies in the provision of medical care for the indigent, in the extension of public health services, and in better care of the mentally ill and the tuberculous patients. In the matter of personnel, we can agree wholeheartedly with Governor Meadows, in his message to the legislature, that salaries must be paid which will "attract men and women of the caliber we know we should have".

W. H. H. Clark

President.

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THE GOVERNOR'S MESSAGE

Gauged by any criterion, Governor Meadows' message to the legislature is an outstanding state paper. It shows an intimate knowledge of West Virginia and her needs and careful study of the proeedures which must be followed to meet those needs. His basic program for the remainder of his gubernatorial term: "(1) improved institutions; (2) more secondary roads; (3) a real school system; and (4) higher health standards," presents objectives well worthy of the support not only of the legislature but of every citizen of the state as well.

The interest of the physician is, of course, centered more upon health and disease problems than anything else appearing on the governmental horizon, but to us as physicians a close seeond interest center is education. Physical and mental well-being are so entwined and interrelated with social and educational well-being that we find it hard at times to determine just where one ends and the other begins. Certainly much ill health has its origin in ignorance.

We commend espeeially the Governor's recommendation for the extension of public health serviee to the entire state; his plea for proper medieal and hospital serviee for the indigent and that marginal segment of our population referred to in eeonomic terms as "the medically indigent"; and for the extension of hospital facilities which are now strained almost to the cracking point in West Virginia.

We congratulate Governor Meadows upon his forthright statement, "I do not advocate socialized medieine." It is heartening to hear nonmedical men in political high places speak their sentiments thus boldly and frankly. We pledge the medical profession to the satisfactory care of the poor in the future as in the past, working as a free profession. There is no occasion whatsoever for encumbering the healing art with the shackles of state medicine.

The Governor deftly puts his finger on the two great basic needs of both medieine (under this term we inelude not only curative medicine but public health as well) and edueation: (1) more trained personnel, and (2) more money with which to purchase their serviees. The state governments have hitherto maintained the shortsighted penny wise and pound foolish policy of not paying their trained technical servants as much as industry offers, and as a result there is a dearth of technically trained personnel in state governmental work. Larger appropriations will go far toward relieving the dire situation in whieh the states find themselves.

THE HOSPITAL LICENSING BILL

The hospital licensing bill prepared by the Interim Committee, while not perfect, deserves passage by the legislature now in session. If West Virginia is to profit from the appropriations of the Hill-Burton Bill, it is neeessary to have a hospital standardization and licensing law. We feel very strongly, however, that the exemption of institutions maintaining accommodations for fewer than five beds is a mistake, and that this exemption should be eliminated. Any institution for the care of the sick should be covered by the statute. In general terms, it has been our observation that the smaller the bed capacity of a hospital the poorer the quality of the service it affords, although there are shining exceptions to this general rule.

West Virginia has gone too long without hospital standardization, and the present legislature should remedy this situation, not only as a matter of qualifying for partieipation in federal hospital funds, but as a matter of guaranteeing to our citizens that the hospital service furnished them is adequate and worth the money they pay for it.

OUR STATE INSTITUTIONS

The Interim Committee has given mueh study to our eleemosynary institutions and the problems associated with the mentally ill and the

tuberculous. As a result, bills have been prepared for presentation to the legislature to meet the needs of these unfortunates. A criticism common to each of these bills is that they do not provide complete coverage of personnel by the merit system, thus disqualifying our state for participation in federal funds for maintenance.

We have two other criticisms of the Tuberculosis Control Bill. We agree heartily with the aims and objectives of the bill, but under "legislative aims" we would have added "the ultimate eradication of tuberculosis from West Virginia." Certainly ultimate and complete eradication should be set up as one of the objectives in combating any infection.

The second objection we urge to the bill as written is the means test which is provided. The interest of the individual citizen and of the state in tuberculosis is so great, and the complete eradication of this disease is so important that the plan promising the earliest eradication should be adopted. Recovery from tuberculosis is long drawn out and fraught with great monetary cost, so much so as to appall the average individual with limited financies, and often he hesitates to take treatment until his pathology is so extensive as to delay complete recovery much longer than should be the case. While the financial outlay would probably be greater to begin with if the state paid all the cost of maintaining the tuberculosis sanitaria, the lessening incidence of the disease would rapidly lighten the burden and in the end be cheaper than if the means test provided for in the bill becomes law.

The Mental Hygiene Bill likewise presents two serious defects. The plans to make one mental hospital a receiving center for the entire state has most often resulted in deterioration of the others than the actual receiving center. Initiative seems to be depressed in the nonreceiving institutions. A second defect in the bill is its failure to provide for the admission of alcoholics and narcotic addicts, both of which constitute very serious sociological and mental disease problems. It is to be hoped that the legislature will take cognizance of these defects in the bills as presented and amend them accordingly.

CHARLESTON IN MAY

Now that the Council has definitely fixed the date and place for the 80th annual meeting of the West Virginia State Medical Association, the various committees have the green light and it will be a case of full steam ahead until the opening of the meeting in Charleston on May 12.

Part of the program had been arranged last summer with the idea that the meeting would be held the second week in June at the Greenbrier at White Sulphur Springs, so the Scientific Work Committee has had to start all over again, but already much progress has been made in rearranging the program.

Many difficult problems have had to be met and solved in connection with the meeting, but committees from both the State Medical Association and the Kanawha Medical Society are working together to iron out all the wrinkles, and members are now assured of an interesting program, attractive exhibits, and adequate hotel accommodations.

When it became apparent that the Greenbrier might not be available for convention purposes at any time during 1947, the Kanawha Society promptly extended an invitation to the Council for the meeting to be held in Charleston, and the Council accepted the invitation. The Kanawha Society members are planning big things for the convention, the hotels are cooperating to the fullest extent, and members may expect one of the best meetings of all time when they come to Charleston in May.

FROM MERCURY BICHLORIDE TO CYANIDE

The press heralded the fact that Herman Goering cheated the noose by swallowing cyanide. Apparently he had been in possession of this drug for some time. It was kept in a small vial which was said to have been secreted in his navel or as the press elegantly stated, "in his gastro-intestinal tract". Since he had a sizable paunch it is possible that at times he did use his navel, but more likely he used his gastro-intestinal tract. The physician knows what part of his gastro-intestinal tract he employed. He simply resorted to the old well-known trick which was used for years by the French convicts on Devil's Island. Be that as it may, Herr Goering certainly fooled his watchers.

The world knows about Goering, but not so many people recall that another Prussian, who lived long before Goering, also carried a vial of poison in case of emergency. Thus history repeats itself.

The man in question was Frederick the Great. This illustrious fighter started his way to glory in a somewhat dubious manner. Those who are historically minded will remember that he was responsible for the Seven Years' War. After faithfully promising Maria Theresa of Austria that he would respect the Pragmatic Sanction, he used

the magnificent army (which his father had built up) to invade and steal the fair Province of Silesia from Austria's proud Queen. And he held it against all comers.

During the exhausting Seven Years' War his fortune fell to a low ebb many times and on several occasions he threatened to make use of the vial of poison which he kept constantly in his possession. He never used it, but if the fortunes of war had been less kind to him, he doubtless would have done so.

Goering was smarter in his choice of poisons, for he employed cyanide, whereas, Frederick, according to historians, carried corrosive sublimate in his vial. This agent, of course, causes a painful lingering death, but the cyanides by their powerful action on the respiratory center kill almost immediately.

Can we say that the wiser selection of poison by Goering (or his advisers) marks progress in medicine? Probably not. Perhaps history repeats itself, or it may be that pharmacology was not a recognized science at the time of Frederick the Great. Thus time marches on.

INHERITANCE OF MENTAL DISEASE

The inheritance of derangement of the mental faculties of man indeed is a difficult problem, partly because it cannot be experimentally tested, partly because the diagnosis is often uncertain, and partly because the role played by environment is difficult if not impossible to define. The scientific achievements in genetics in reference to the localization of the genes in the chromosomes, their specific laws of appearance and combination in the mendelian progeny are not applicable. Personality and character are difficult to be studied genetically. The fruit fly's and the schizophrenic's germ plasm or their possible blastophoria are not in approximation, and their character or behavior scales are obviously not comparable.

If one analyzes pedigrees or family histories of mental patients, one finds many forms of taints in the ancestry and relatives which suggest neuropathic or psychopathic inheritance (polymorphism). However, an equal number of noninsane of the same sex, age, race, social, moral ,and economic status may present hereditary taints in a high proportion, so that often the pedigree of the normal is not much different from the abnormal. In the average population, schizophrenia occurs in 3 or 4 per thousand. In the schizophrenia, in some cases of feeblemindedness, and in the manic-depressive psychoses do hereditary factors appear to be of importance.—Hans H. Reese, M. D., in Wisconsin

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Mosquitoes, chiggers, black flies, sand flies and bed bugs stay away! Two new insect repellents have been announced by the Naval Medical Research Institute in Bethesda. They are called NMRI-201 and NMRI-448.—R. N.

General News

COUNCIL CLEARS HEAVY CALENDAR IN BUSY SESSION AT PARKERSBURG

The regular winter meeting of the Council of the West Virginia State Medical Association was held at the Chancellor Hotel in Parkersburg, December 29, 1946. Dr. Thomas L. Harris, the chairman, presided at the meeting, which was attended by Drs. T. M. Barber, Thomas G. Reed, R. D. Gill, E. A. Trinkle, B. S. Brake, A. R. Sidell, J. L. Patterson, W. C. Swann, Carl E. Johnson, N. H. Dyer, John P. Helmick, and Mr. Charles Lively, secretary *ex officio*. Dr. James S. Klumpp, first vice president elect, Dr. M. H. Porterfield, of Martinsburg, councillor elect from the second district, and Dr. Hu C. Myers, of Philippi, and Dr. Harry V. Thomas, of Clarksburg, members of the Auxiliary advisory board, were also present.

Woman's Auxiliary Project

Drs. Thomas, Myers, and Helmick presented the proposed essay project of the Woman's Auxiliary. It is planned to award prizes for the best essays submitted by senior high school students on the implications of socialized medicine. The project was approved by the Council.

Fidelity Assurance Association

The executive secretary reported that a final dividend of $615.60 was received October 15, 1946, from the receivers for Fidelity Assurance Association, being payment in full of the claim of the West Virginia State Medical Association.

Study of Diabetes

At the suggestion of Dr. William M. Sheppe, of Wheeling, the Council authorized the appointment by Dr. Wade H. St. Clair, the president, of a special committee for the study and investigation of statistics concerning diabetes in West Virginia.

Mental Hygiene

The president was also authorized to appoint a special committee on mental hygiene, advocated in a resolution adopted at the AMA meeting in San Francisco last July.

Honorary Members

The following members were elected to honorary lifetime membership in the State Medical Association:

O. O. Eakle, Sutton
H. S. Brown, Sutton
G. M. Burton, Weston
S. H. Burton, Weston
J. B. Doddrill, Webster Springs
H. O. Van Tromp, French Creek
C. B. Rohr, Alum Bridge
S. H. Post, Volga
L. W. Deeds, Buckhannon

Dr. A. J. Kemper, of Clarksburg, honorary member, was nominated for affiliate fellowship in the American Medical Association.

Dr. Vest Reelected

Dr. W. E. Vest, of Huntington, editor of the West Virginia Medical Journal, was reelected a member of

the Publication Committee for the term ending December 31, 1951.

Kanawha Valley Medical Center

Retention and operation by the state of the Kanawha Valley Medical Center in South Charleston was approved after Dr. H. N. Dyer, the state health commissioner, reported that it would be necessary for the state to provide 20 per cent of the funds used in its operation after July 1, 1947.

1947 Annual Meeting

The invitation of Kanawha Medical Society, extended by Dr. Thomas G. Reed, for the Association to meet in Charleston in May, 1947, was unanimously accepted. The meeting was to have been held at White Sulphur Springs, but the invitation was extended by Kanawha Medical Society because of the uncertainty concerning the availability of the Greenbrier Hotel for convention purposes during the year.

Interim Committee Program

In considering the proposed interim committee legislative program, the Council went on record as approving the absolute transfer to the state health department of the medical supervision of state mental and tuberculosis institutions but the retention by the board of control of full and complete administration of the fiscal affairs of such institutions. With this exception, the mental hygiene and tuberculosis control bills were approved. The opinion was expressed by several members of the Council that the administration of the business affairs of the institutions with the heavy responsibilities involved should not be assumed at this time by the state health department. In approving the program, the Council went on record as being in favor of the appropriation of $250,000 for medical and hospital care for the medically indigent.

The Council also approved the merger of city and county health units and the establishment of additional units in every county or group of counties in the state.

The Council again went on record as favoring the reorganization of the Department of Public Assistance so as to make it possible for county offices to remain open 24 hours each day so that medical and hospital care for the indigent sick may be authorized promptly.

Continuance of the two-year medical school at West Virginia University and the construction of modern buildings as soon as materials are available and the opening as soon as possible of a school of public health at the University were advocated by the Council.

Nursing Problems

The Council adopted a resolution calling upon the board of examiners for registered nurses to put into effect more realistic and less rigid practices in passing upon the qualifications and scholastic credits of applicants for schools of nursing in West Virginia. It was thought that the present acute shortage of nurses might be relieved if these steps are taken.

Academy of Ophthalmology

Approval was also given by the Council to the creation by the House of Delegates of an Academy of Ophthalmology and Otolaryngology to replace the present Section on EENT.

PROGRAM COMMITTEE MEETS

A meeting of the Scientific Work Committee for the 1947 annual meeting was held in Charleston January 12, and an entire new scientific program outlined. The rearrangement was necessary because of the change of the date of the meeting from the second week in June to the second week in May.

Several speakers who were invited last summer had already accepted and a few had declined. New dates were set for the addresses and the program partly completed for the three-day meeting. Another meeting of the committee will be held within the next few weeks, when it is hoped that every detail of the entire program may be finally arranged.

Dr. Frank J. Holroyd is chairman of the committee and the other members are Drs. D. A. MacGregor, of Wheeling, and Cecil O. Post, of Clarksburg.

NATIONAL HEART WEEK

The week of February 9, 1947 will be observed as National Heart Week. Spearheading a nationwide campaign of public health education on diseases of the heart, the American Heart Association and the West Virginia Heart Association have begun the distribution of community plan booklets through the facilities of the United States Junior Chamber of Commerce, the American Legion, Rotary International, and Kiwanis International.

Presenting a startling statistical picture of the damage wrought by heart disease in the United States, the Association's booklet cites the fact that heart disease takes a greater death toll than cancer, accidents, nephritis, pneumonia, and tuberculosis combined.

Dr. Oscar B. Biern, of Huntington, is president of the West Virginia Heart Association, Dr. Ralph J. Jones, of Charleston, vice president, and Dr. Ray H. Wharton, of Parkersburg, secretary-treasurer.

DR. ANGSTADT RESIGNS

Dr. Norman G. Angstadt, for many years director of the bureau of county health work and acting director of the bureau of maternal and child hygiene in the state health department, has resigned to accept appointment as director of the department of medical supervision of the school district of Reading, Pennsylvania. No successor has been appointed.

NEW WYETH BOOKLET

A handy new reference booklet for the busy doctor, "Therapeutic Agents of Special Merit", has just been published by Wyeth, Inc., Philadelphia. The booklet has been designed to provide the doctor with clear, concise and accurate information about selected Wyeth therapeutic agents, which by reason of their merit and widespread use, have proved to be helpful to the general practitioner as well as the specialist.

Each therapeutic product is illustrated and fully described, pointing out what it is, how used and how supplied. Copy has been held to a minimum. Only essential facts about each product are given. Additional clinical and laboratory data on the agents listed are available on request.

AUXILIARY EXECUTIVE BOARD MEETS

The winter meeting of the executive board of the Woman's Auxiliary to the State Medical Association was held at Charleston January 14. Mrs. D. E. Greeneltch, of Wheeling, the President, presided at the meeting, which was held at the headquarters office of the State Medical Association, and which attracted almost a one hundred per cent attendance of the members. Yearly reports were presented and other routine auxiliary business was taken care of, and plans made for the 23rd annual meeting at Charleston, which will be held May 12-14, 1947, conjointly with the annual meeting of the West Virginia State Medical Association.

The members of the board were guests of the Kanawha Auxiliary at a luncheon at the Daniel Boone Hotel at one o'clock. Mrs. R. L. Anderson, local president, presided and there were more than one hundred members and guests present.

Mrs. Greeneltch reported the organization of three new county society auxiliaries and spoke most interestingly concerning the work of the state organization during the past few months.

Mr. Charles Lively, executive secretary of the State Medical Association, addressed the group and discussed plans for the joint meeting of the association and auxiliary in May.

80TH ANNUAL MEETING

The 80th annual meeting of the West Virginia State Medical Association will be held at Charleston, May 12-14, 1947. General sessions will be held as usual, and the auditorium at the Shrine Mosque will be used for all meetings except on the second night of the program, when the session will be held in the ballroom of the Daniel Boone Hotel.

It is planned to set up both scientific and technical exhibits in the WCHS auditorium, on Lee Street.

Charleston hotels are cooperating in plans for the convention and reservations can now be made at the Daniel Boone, Kanawha, Holley, Ruffner, and Worthy hotels.

CANCER INFORMATION CENTERS

West Virginia's first cancer information center has been opened at 207 Bradford Street, in Charleston. It is being financed from funds collected in the annual cancer drive of the American Cancer Society. The center is open to the public each weekday from 9 until 5 and is in charge of Mrs. Frances Meyer, who is serving as field worker. Literature is being distributed and information is available to persons interested in cancer control.

Applications of needy cancer patients for financial aid through the division of cancer control are handled by Mrs. Meyer, who attends the two tumor clinics in Charleston. She is also available to give follow-up service to cancer patients who have not returned to the clinics or to the physician for observation.

Plans are being completed for the opening of an information center in Wheeling. The offices will be located at 77 Twelfth Street, with Miss Virginia Ewing, a graduate in social service from Wooster University, in charge.

A third center will be opened in Clarksburg early in the spring.

AUXILIARY ADVISORY BOARD OFFICERS AND MEMBERS
Photo shows (left to right) Dr. U. G. McClure, Charleston, Mrs. D. E. Greeneltch, Wheeling, Mrs. R. L. Anderson, Charleston, Dr. John P. Helmick, Fairmont, and Dr. Harry V. Thomas, Clarksburg. The other members of the board, Dr. Hu C. Myers, Philippi, and Dr. Scott A. Ford, Beckley, were not present at the meeting.

SPECIAL COMMITTEES APPOINTED ON MENTAL HYGIENE AND DIABETES

Two special committees have been appointed by Dr. Wade H. St. Clair, president of the West Virginia State Medical Association, one on mental hygiene, and the other on the study of diabetes in West Virginia. Appointment of both committees was authorized by the Council.

Mental Hygiene

The committee on mental hygiene will make contacts with the state health department and the mental institutions in the state and will study proposals for improvements, including increase in appropriations and appointment of additional trained personnel. It will keep in close contact with the National Committee for Mental Hygiene and affiliated organizations and will consider the creation of local mental hygiene groups.

The Council took action following the adoption of a resolution by the American Medical Association at the meeting at San Francisco last July.

This resolution contemplates the development, with the help of each state medical association, "of an adequate statewide mental hygiene and mental diseases program" and cooperation "with other groups in stimulating public support in order that sufficial funds may be secured for the proper operation and maintenance of such activities."

Under the provisions of the national mental health act, approved by the President last summer, $10,000,000 is appropriated for research relating to psychiatric disorders and the development of more effective methods of prevention, diagnosis and treatment of such disorders. The fund will be distributed by the U. S. Public Health Service through grants-in-aid and otherwise.

Dr. Oscar B. Biern of Huntington, is chairman of the new committee and the other members are Drs. A. L. Wanner, of Wheeling; Joseph L. Knapp, of Weston; E. F. Reaser, C. T. Taylor and George D. Johnson, of Huntington; and A. A. Wilson, O. N. Morison, W. B. Rossman, and N. H. Dyer, of Charleston.

Doctor Biern has been serving as chairman of the special psychiatric committee appointed several months ago, and under the sponsorship of which psychiatric seminars were held in various cities in West Virginia.

Committee on Diabetes

Dr. William M. Sheppe, of Wheeling, is chairman of the new committee on the study and investigation of statistics concerning diabetes in West Virginia. The other members are Drs. Fred R. Whittlesey, or Morgantown; W. A. Thornhill, of Charleston, R. C. Neale, of Bluefield, and L. Rush Lambert, of Fairmont.

The appointment of this committee will mean a closer relationship between the State Medical Association and the dietetic associations in the state.

CONFERENCE ON MEDICAL SERVICE

The 20th annual meeting of the Conference on Medical Service will be held February 9, at the Palmer House in Chicago. All physicians are invited to attend and there is no registration fee. Dr. Cleon A. Nafe, of Indianapolis, Indiana, is president of the conference and Dr. Creighton Barker, of New Haven, Connecticut, is secretary.

SUGAR DERIVATIVES IN PHARMACY

In a fifth of a series of scientific reports, "Sugar and Sugar Derivatives in Pharmacy", prepared by Dr. Paul S. Pittenger, vice president in charge of Quality Control of Sharpe and Dohme, Inc., the importance of sugar to the pharmaceutical industry is reviewed. It is brought out that 63,000,000 pounds of sugar annually enter into the manufacture of medicine and drugs. Sections of the report detail how sugar is employed in the making of hundreds of preparations found in the United States Pharmacopeia and the National Formulary. Copies of the report may be obtained from the Sugar Research Foundation, 52 Wall Street, New York 5, New York.

HEALTH EDUCATION QUESTIONNAIRE

A questionnaire, "Inventory of Secondary School Health Education Program in West Virginia", has been prepared and mailed to all principals of high schools in West Virginia. The committee submitting the inventory is composed of Miss Katherine Steinbicker, state consultant for the community health service project, department of education, Mrs. Grayce Hoke, Mr. A. J. Gibson, and Mr. L. K. Lovenstein.

The replies to the questionnaire will be used in setting up comprehensive objectives and in implementing a health education program to meet the needs and interest of high school students in the state.

PG COURSE IN RADIOLOGY

The American College of Radiology will select one hundred radiologists to attend the post graduate courses in radiology, at Philadelphia, March 30-April 4. Preference will be given to radiologists who served in World War II. Second preference will be given to qualified applicants who were unable to obtain admission to last year's course. The course is sponsored jointly by the American College of Radiology and the Philadelphia Roentgen Ray Society.

NAMED TO NOMINATING COMMITTEE

Mrs. V. E. Holcombe, of Charleston, past national president of the Woman's Auxiliary to the American Medical Association, attended the conference of presidents and presidents elect, December 12, at the Hotel Continental, in Chicago. At the annual meeting held at San Francisco in July, Mrs. Holcombe was named a member of the nominating committee for 1947.

DR. N. H. DYER HONORED

Dr. N. H. Dyer, State Health Commissioner, has been appointed a member of the governing council of the southern branch of the American Public Health Association. The appointment was made by Dr. John W. Williams, Jr., of Jefferson City, Missouri, president of the southern branch.

PHC SCHEDULES SPRING MEETING

The spring meeting of the Public Health Council will be held March 31-April 1-2, at the Daniel Boone Hotel in Charleston, for the purpose of examining applicants for licensure in West Virginia.

CANCER SOCIETY'S ESSAY CONTEST

The West Virginia Cancer Society, Inc., is sponsoring an essay contest, open to students enrolled at West Virginia University, or at any college in West Virginia. The subject is "The Cancer Problem," discussion being limited to the best way to educate the people of West Virginia in matters pertaining to cancer control.

All essays must be typewritten on one side of the sheet only, and the length is not to exceed 1500 words. All essays become the property of the West Virginia Cancer Society and no manuscript will be returned. Prizes will be awarded as follows: First, $200, second, $100, and third, $50.

The name and address of the author of each essay should be placed in a sealed envelope and should accompany the essay. Each essay and each evelope will be numbered correspondingly and the judges will be given the number of the essay only. The decision of the judges will be final. Dr. Russell B. Bailey, of Wheeling, Dr. E. J. Van Liere, of Morgantown, and Mr. Calvert Estill, of Charleston, will serve as judges.

The contest closes at midnight, March 31, 1947, and entries are to be sent to the West Virginia Cancer Society, Inc., 1101 West Virginia Building, Huntington 1, West Virginia.

ACP ELECTS FELLOWS AND ASSOCIATES

The American College of Physicians has announced that Drs. George Paul Heffner, and William C. Stewart, both of Charleston, were elected to Fellowship during 1946.

Drs. Ralph J. Jones, of Charleston, Eugene L. B. Walsh, of Huntington, and R. U. Drinkard, of Wheeling, were elected Associates in the College.

LOCAL CONVENTION COMMITTEE

Dr. Spencer L. Bivins, president of the Kanawha Medical Society, has appointed the following doctors as members of the local committee on arrangements for the annual meeting of the State Medical Association at Charleston, May 12-14: Dr. W. P. Black, chairman, and Drs. A. A. Wilson, P. K. Buford, Thomas G. Reed, U. G. McClure, F. A. Clark, T. P. Mantz, R. L. Anderson, and W. A. Thornhill.

The committee held its initial meeting January 16, and discussed plans for special features and entertainment for the meeting.

INCOME TAX CALENDAR

March 15 is the deadline for filing income tax returns for 1946. Balance of tax must be paid by this date.

Estimated income returns for 1947 must be filed by March 15, and Form 1040-ES is to be used for the purpose.

March 15 is also the deadline for the payment of the first quarter of estimated 1947 income tax.

COMMITTEE ASKS FOR SUGGESTIONS

The Syphilis Committee of the West Virginia State Medical Association has usked that doctors who have suggestions concerning the work of the committee get in touch promptly with the chairman, Dr. Howard T. Phillips, 62 14th Street, Wheeling, in order that such suggestions may be incorporated in programs for future meetings. Doctors are asked to be specific in their recommendations. Constructive criticism is welcomed, and it is hoped that all doctors interested in VD control will communicate with the chairman or some member of the committee without delay. Besides Doctor Phillips, the committee is composed of Drs. C. A. Hoffman, Huntington, C. G. Power, Martinsburg, John E. Offner, Fairmont, H. M. Escue, Charleston, and R. C. Neale, Bluefield.

AAPS ESSAY CONTEST

The first annual essay contest for junior and senior high school students will be opened February 1, 1947, by the Association of American Physicians and Surgeons. The subject is, "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." The first prize is $1,000; the second, $500; and the third, $100.

Essays are limited to 1,500 words and the contest is open to junior and senior high school students of all schools, except sons and daughters of physicians. The contest will close April 30, 1947. The headquarters offices of the A. A. P. S. are located at 11 S. La Salle Street, Chicago 3, Illinois.

DIRECTORY OF OPHTHALMOLOGISTS

A directory of diplomates of the American Board of Ophthalmology, as of January 1, 1947, will be published in the near future. It will be arranged both alphabetically and geographically, but no biographical material will be included. Diplomates who have not already notified the Board concerning the exact way in which they desire their names listed should do so at once. The price of the directory is $3.00, and correspondence should be addressed to the Executive Office, American Board of Ophthalmology, Cape Cottage, Maine.

ACS ELECTS FELLOWS

The American College of Surgeons has announced that the following West Virginia doctors were elected to Fellowship during the clinical congress of the ACS held in Cleveland, December 20, 1946:

Carroll B. Buffington, Wheeling; John C. Condry, and Charles E. Staats, Charleston; John D. German, Huntington; Woodrow W. Scott, Oak Hill; and W. Merle Warman, Morgantown.

NEW HEALTH OFFICER

Dr. Thomas C. Sims, who has been serving as health officer for district No. 1, with headquarters at Sutton, has been named by the public health council as health officer for Fayette County, with headquarters at Fayetteville.

CIBA "SLYD-RUL"

During December, 1946, Ciba Pharmaceutical Products, Inc., of summit, New Jersey, distributed to practically all the doctors of the United States a Ciba medical "Slyd-Rul". It is designed to aid the physician in converting apothecary to metric units. However, due to the manufacturer's error in placement of decimal point, concersion from 0.4 grain to gram is incorrect. It should read 0.025 gram, not 0.25. Doctors are requested to make the correction by replacing the celluloid table with corrected temporary paper table that has been mailed by Ciba.

A corrected celluloid slide will be mailed to doctors just as soon as possible.

RURAL HEALTH CONFERENCE

The second annual national conference on rural health will be held at the Palmer House, in Chicago, February 7-8, 1947. Doctors interested in rural health and representatives of all farm organizations are invited to attend the conference.

EXAMINATIONS FOR NURSES

Examinations for the appointment of nurses for the first three grades of the Regular Commissioned Corps of the United States Public Health Service will be held during February and March in several cities throughout the country.

Full information concerning the examinations for Junior and Senior Assistant Nurse Officer may be obtained from the United States Public Health Service, Division of Commissioned Officers, Washington, D. C.

STATE DIETETIC ASSOCIATION

The 1946 Winter Bulletin of the West Virginia Dietetic Association (Vol. I, No. 2) was recently received at the headquarters office of the West Virginia State Medical Association. The officers of this young organization are as follows: Miss Dorothy Franz, of Morgantown, president; Miss Ona Stinson, of Charleston, vice president; Miss Marguerite Watkins, of Williamson, secretary; Miss Margaret Joseph, Parkersburg, delegate; and Mrs. Gwendolyn Goldson, of Institute, treasurer.

This issue of the Bulletin includes articles by Dr. William M. Sheppe, of Wheeling, on "Nutritional Deficiencies in Diabetes," and Dr. Wayne Bronaugh, of Parkersburg, on "Diet for Colostomy Patients." The "Resection Diet" used by Drs. Thomas L. Harris and M. A. Santer, at St. Joseph's Hospital, Parkersburg, was also described in the Bulletin.

The fifth annual meeting of the West Virginia Dietetic Association was held late in the spring at the McLure Hotel in Wheeling. Dr. W. M. Sheppe appeared on the program and presented a paper on "Diet in Diabetes Mellitus."

AMERICAN COLLEGE OF PHYSICIANS

The annual session of the American College of Physicians will be held at the Palmer House in Chicago, April 28-May 2, 1947.

RELOCATIONS

Dr. S. Sprigg Jacob, formerly of Bethany, who was recently released from military service, is serving a residency in pediatrics at the Henry Ford Hospital in Detroit.

* * *

Dr. Norman L. Cardey, who was released from military service a few months ago, is serving a residency in surgery at the California Hospital, 533 North St. Andrews Place, Los Angeles 4, California. Doctor Cardey was with the armed forces for over five years, serving with the 11th Evacuation Hospital in Italy, France and Germany. The unit won a citation for service in France. Doctor Cardey was awarded four battle stars and an Arrowhead (landing in France on D-Day).

* * *

Dr. Margaret Stemple Moskal, formerly of Morgantown, where she served as secretary of the Monongalia County Medical Society, has moved to Chicago, where she will be associated in the practice of medicine with her husband, Dr. Frank J. Moskal, with offices at 4214 W. 25th Place, Chicago 23, Illinois.

* * *

Dr. Ralph C. Greene, formerly of Masontown, who was recently released from military service, is serving as pathologist at the Veterans Hospital, at Memphis, Tennessee.

* * *

Capt. Clinton B. Chandler, MC, of Iaeger, is now assigned to the Oliver General Hospital, at Augusta, Georgia. He was formerly stationed at Wakeman General Hospital, Camp Atterbury, Indiana.

* * *

Dr. H. D. Hively, of Parkersburg, who was formerly located at Ward, is now in industrial practice at Omar.

* * *

Dr. Charles M. Polan, of Huntington, has been released from military service and has offices at 1042 Sixth Avenue, Huntington, where he has resumed the practice of his specialty of ophthalmology.

* * *

Dr. James A. Campbell, formerly of Beckley, is serving a two-year residency in EENT at the Gill Memorial Hospital, in Roanoke, Virginia. He was released from military service last year. He was associated with Dr. F. J. Moore, at Lillybrook, before beginning to serve his residency in July.

* * *

Dr. Frederick H. Dobbs, who has been practicing in Wheeling since his release from the service early in 1946, has relocated in Charleston and is associated with Dr. W. W. Point, Medical Arts Building, in the practice of his specialty of obstetrics and gynecology. At the time of his release from the Navy, Doctor Dobbs was serving with the rank of Lieutenant Commander

FRANK E. SMITH HEADS AMCP

The Associated Medical Care Plans has appointed Mr. Frank E. Smith as director. He has offices in the American Medical Association building at 535 North Dearborn Street, Chicago, Illinois.

MATERNAL AND CHILD HEALTH DIRECTOR

Dr. Isabell Morgan, of Ann Arbor, Michigan, who has been on the staff of the School of Public Health at the University of Michigan for the past two years, has been appointed director of the division of maternal and child health, state health department. The appointment, which is effective February 1, was made by Dr. N. H. Dyer, state health commissioner.

Dr. N. G. Angstadt, who recently moved to Reading, Pennsylvania, has been acting director of the division since the resignation of Dr. Lenore Patrick Chipman in 1944.

DR. HAMILTON MOVES TO OHIO

Dr. W. P. Hamilton, who has been located at Chapmanville for several years, has moved to Greenwich, Ohio, where he will continue in general practice.

Doctor Hamilton served as county health officer for Logan county for several years, and was secretary-treasurer of the Logan County Medical Society, 1947-47.

CANCER

The function of the pathologist in cancer study is to distinguish between innocent and cancerous growths. Mutilation may often be avoided. Innocent or benign tumors grow without spreading, usually are well-contained, and can be completely removed by the surgeon. Cancerous growth tends to insinuate among normal cells and finally is carried through lymph vessels and sets up scattered growths in various organs. This is the danger in cancer.

We have only three methods of treating cancer presently approved by medical science. They are surgery, x-ray, and radium. Not a single method is effective against cancer cells once they are scattered throughout the body. The cause of cancer is unknown. Our only protection is to be constantly alert and through periodic examination catch such growths in the early stages. This will prevent the scattering which renders us helpless.—J. L. Arbogast, M. D., in J. Indiana St. Med. Assn.

NEED ENCOURAGEMENT

There appears to be no single reason for the present shortage of nurses. It would be helpful, however, if hospitals, training schools and their professional staffs would do their part in making the life of a nurse more attractive than it is at present, thereby encouraging more young women of the proper type to enter the nursing profession.—New England Journal of Medicine.

TRAUMA NOT CAUSE OF CANCER

While at the present time there is abundant evidence that malignant disease is excited by various forms of chemical substance when acting upon a suitable host, on the other hand there is no conclusive scientific evidence that malignancy results from a single trauma. Innumerable experiments in which trauma of various kinds has been inflicted upon animals have so far failed to produce any form of malignant growth. From the standpoint of probability, there is little or no reason to blame trauma as the cause of cancer and sarcoma. The New York State Compensation Bureau reported that out of 26,389 injured persons, 37 developed malignant tumors, a percentage about normal for a similar number of uninjured persons. It has been repeatedly noted that there was a very low incidence of malignant disease in men injured in the first World War.—A. K. Harcourt, M. D., and Jewett V. Reed, M. D., in J. Ind. St. Med. Assn.

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FUTURE OF PHYSICAL MEDICINE

There is now no room for doubt that the astounding developments in the physical rehabilitation and reconditioning of wounded soldiers and sailors, as it is being perfected in military hospitals, will tend to revolutionize medicine as practiced in civilian hospitals. Just as young medical officers in the army trained in physical medicine are being assigned as chiefs of the reconditioning division of physical medicine of each army general hospital, so will there be a need for physicians trained in physical medicine to head similar reconditioning programs in civilian hospitals. Major Henry B. Gwynn of the Reconditioning Consultants Division of the Office of the Surgeon General has stressed this point. Recently he wrote: "No more will we hear patients told: 'Your stitches are out now, you can go home tomorrow or the day after. When you get home, take it easy for a while, and when you feel strong enough, go back to work.' "

In the future, physicians will have to give more attention to each scientific detail of a suitable convalescent regimen which will fill the gap previously mentioned between the usual end point of medical care and the real necessities of most patients. Gwynn foresees the establishment of elaborate physical reconditioning programs in all of our civilian hospitals following the war. He mentioned that: "Too often physical medicine is looked upon as merely an orthopedic therapy aid and its role in other surgical, medical and mental conditions completely overlooked." It seems apparent from Gwynn's observations that public opinion, influenced by the results being obtained in the reconditioning programs in our military hospitals, will force the development of similar projects in civilian hospitals. —F. H. Krusen, M. D., in Proceedings of Staff Meetings Mayo Clinic.

INTELLIGENCE AND FERTILITY

The first attempt to study the inheritance of mental characteristics by formal tests was made by Sir Cyril Burt, in collaboration with J. C. Flugel, at Oxford in 1907. His latest survey, undertaken for the Royal Commission on Population and lately published by the Eugenics Society, confirms his early observation "that the dull and defective are multiplying more rapidly than the bright."

He finds that during the past generation the decline in the intelligence quotient (I. Q.) has amounted in urban areas to about 1.5 points (equivalent to about 3 mental months for adults), and in rural areas to about 2.0 points (equivalent to about 4 mental months for adults). If prolonged, this decline, of which these are regarded as conservative estimates, would have grave effects. For example, if the rate were to remain constant until the end of the century, the number of youths of scholarship ability would be approximately halved and the number of feebleminded almost doubled—an outcome even graver than the lowering of the general average by about 5 I. Q. points. . . .

The important conclusion is not that the smaller, well-to-do, classes are producing few children but that among the more numerous working classes it is still the most intelligent families that contribute fewest to the next generation. With the rise in the standard of living throughout the whole community, the class correlation will grow smaller; and the partial correlation with intelligence will soon outweigh the partial correlation with occupational category or economic group.—The Lanset.

Disease is an impediment to the body, but not to the will, unless the will itself chooses.—Epictetus.

WOMAN'S AUXILIARY
TO THE
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Obituaries

ALONZO HOFFMAN, M. D.

Dr. Alonzo Hoffman, 50, of Russell, Kentucky, a former resident of Milton, died of heart disease, December 24, 1946, at a hospital in Ironton, Ohio.

Doctor Hoffman was born at Griffithsville, and was a graduate of Marshall College and the Medical College of Virginia. He served his internship at the C. & O. Hospital at Huntington, and had been in industrial practice for the C. & O. Railway Company at Russell for the past 18 years.

While at Marshall College, he was an assistant instructor of chemistry, and while he was a student at the Medical College of Virginia, he taught chemistry at Marshall during several summer terms. He served with the Army overseas during World War I. He was a member of the Southern Medical Association and the American Legion, and was a past president of the Russell Rotary Club. He is survived by his widow, the former Reva Ridenour, of Princeton, one daughter, Thersa Hoffman, and four brothers and three sisters.

* * *

JOHN H. LUIKHART, M. D.

Dr. John H. Luikhart, 56, of Moundsville, died at his home in that city, November 9, 1946, following an illness of several months.

Doctor Luikhart was born in Monroe County, Ohio, son of the late Christopher and Rosa (Schaffer) Luikhart. He attended public schools in Marshall County, graduated from West Virginia Wesleyan College, and received his M. D. degree at Ohio State University Medical College, at Columbus, in 1916. He had been engaged in practice at Moundsville for the past thirty years. He was a member of the Marshall County Medical Society, the West Virginia State Medical Association, the American Medical Association, and the International College of Surgeons. Besides his widow, he is survived by four brothers and a sister.

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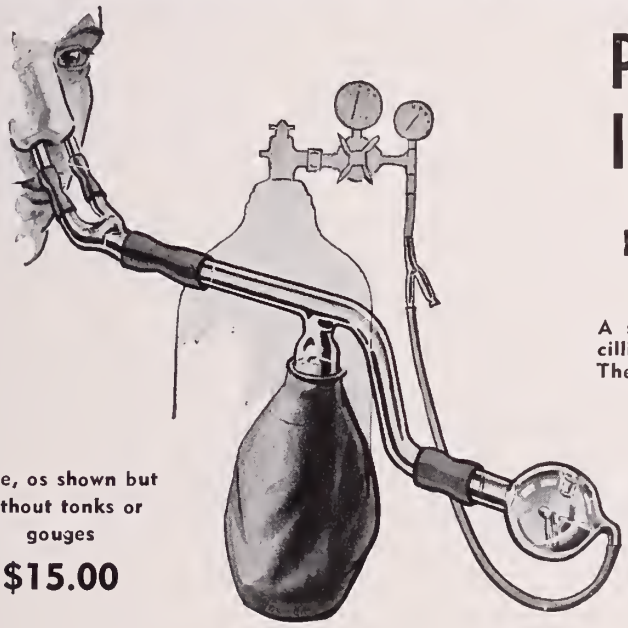

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County Society News

BARBOUR-RANDOLPH-TUCKER

The quarterly meeting of the Barbour-Randolph-Tucker Medical Society was held December 19, at the Coach and Four Inn near Elkins. Dr. John C. Kerr and Dr. James R. McClung, of Clarksburg, were the guest speakers.

At the business meeting, the following officers were elected for 1947: President, R. J. Condry; first vice president, F. K. Lyon; second vice president, T. L. Woodford; secretary-treasurer, Donald R. Roberts (re-elected); member board of censors, W. G. Harper; delegates to the house of delegates, W. E. Whiteside, H. C. Myers, and Donald R. Roberts. Drs. Wendell E. James, of Elkins, John E. Lenox, of Philippi, and Charles Sites, of Parsons, were elected to membership in the society.

DONALD R. ROBERTS, M. D.,
Secretary.

* * *

BOONE

At the regular monthly meeting of the Boone County Medical Society, held at the Court House, in Madison, January 15, the following officers were elected for 1947:

President, W. V. Wilkerson; vice president, A. E. Glover; secretary-treasurer, L. A. Dickerson; delegate to the house of delegates, W. F. Harless; and alternates, O. D. Ballard and H. A. Smith.

L. A. DICKERSON, M. D.,
Secretry.

* * *

FAYETTE

At the regular monthly meeting of the Fayette County Medical Society held at Montgomery, January 7, the following officers were elected for 1947: Presi-

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dent, W. W. Scott; first vice president, A. L. Harless; second vice president, R. A. Updike; secretary-treasurer, J. N. Jarrett; delegates to the house of delegates, Claude Frazier and R. A. Updike; alternates, C. W. Stallard and E. S. Carter; and board of censors, J. B. Thompson, M. A. Moore and G. A. Smith.

J. N. JARRETT, M. D.,
Secretary.

* * *

HARRISON

At the regular monthly meeting of the Harrison County Medical Society held December 5, at the Stonewall Jackson Hotel, in Clarksburg, the following officers were elected for the ensuing year: President, S. S. Hall; vice president, J. E. Wilson, Jr.; secretary, W. H. Allman (reelected); and treasurer, L. H. Mills.

W. H. ALLMAN, M. D.,
Secretary.

* * *

LOGAN

Dr. Paul R. Gerhardt, director of the division of cancer control of the state health department, was the guest speaker at the regular monthly meeting of the Logan County Medical Society, held at the Aracoma Hotel in Logan, January 8. His subject was "The General Practitioner and the Control of Cancer."

Doctor Gerhardt described several simple methods by which the general practitioner can detect cancer in

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his office or at the bedside of the patient. He also presented a resume of the division's cancer control program.

The legislative program of the interim committee was discussed briefly by Dr. J. L. Patterson. Dr. Fred Brammer, the president, announced the appointment of Drs. H. H. Farley, E. H. Starcher, and Harold Van Hoose as members of the legislative committee.

I. M. KRUGER, M. D.,
Secretary.

* * *

MERCER

The annual banquet of the Mercer County Medical Society was held December 19, 1946, at the West Virginian Hotel in Bluefield.

Problems of the State Medical Association were discussed by its president, Dr. Wade H. St. Clair, who stressed particularly the part the auxiliary could play in matters affecting organized medicine. Entertainment was furnished by the Bluefield A Capella Choir.

The following officers were elected: President, E. L. Gage; vice president, Daniel Hale; secretary, Frank J. Holroyd, (reelected); treasurer, Robert Fugate; delegates to the house of delegates, C. M. Scott; alterantes, O. G. King and J. I. Markell; member board of censors, C. I. Butte.

* * *

MINGO

At the banquet meeting of the Mingo County Medical Society, held December 21, at the Memorial Hospital, in Williamson, the following officers were elected for 1947; President. Dr. H. C. Hays; vice president, Dr. W. H. Price; secretary-treasurer, Dr. J. C. Lawson (reelected); and member board of censors, Dr. J. E. Johnson.

J. C. Lawson, M. D.,
Secretary.

* * *

OHIO

Dr. Emil Novak, of Baltimore, was the guest speaker at the regular monthly meeting of the Ohio County Medical Society, held January 10, in the Solarium at the North Wheeling Hospital, in Wheeling. His subject was, "Indications, Limitations and Hazards of Endocrine Therapy." The paper was discussed by Drs. Carl Bickle, John G. Thoner, and Paul Cope.

C. B. BUFFINGTON, M. D.,
Secretary.

* * *

PARKERSBURG ACADEMY

Dr. Athey R. Lutz has been elected president of the Academy of Medicine of Parkersburg to succeed Dr. W. F. Rogers. Dr. W. A. Bevaqua was named vice president, and Dr. F. L. Blair reelected secretary-treasurer.

F. L. BLAIR, M. D.,
Secretary.

* * *

POTOMAC VALLEY

Dr. Boyce W. Hodges, of Cumberland, Maryland, was the guest speaker at the regular monthly meeting of the Potomac Valley Medical Society held January 8, at

Burlington. His subject was, "Relief of Pain in Obstetrics During the Past One Hundred Years."

The following officers have been elected for 1947: President, J. H. Wolverton, Jr.; vice presidents, J. B. Grove, O. V. Brooks, R. W. Dailey, O. F. Mitchell, and Robert Bess; secretary-treasurer, E. A. Courrier (re-elected); board of censors, W. A. Flick, J. H. Wolverton, and R. W. Love.

E. A. COURRIER, M. D.,
Secretary.

* * *

CIVIL SERVICE EXAMINATION

An examination for Medical Officer (specialist) has been announced by the U. S. Civil Service Commission to fill high-grade positions in various medical fields. The vacancies are in Washington, D. C. and vicinity. Salaries range from $7,102 to $9,975 per annum.

Candidates must be graduates of a medical school with the degree of doctor of medicine and must have had experience or education in a specialized medical field. The maximum age limit, 62 years, will be waived for persons entitled to veteran preference.

Application forms may be obtained at all post offices, from Civil Service regional offices, or from the Civil Service Commission.

PG SEMINAR IN RADIOLOGY

The second annual postgraduate seminar in radiology will be held March 30-April 4, 1947, in Philadelphia. The course will be jointly sponsored by the Commission on Education of the American College of Radiology and the Philadelphia Roentgen Ray Society. The Committee on Selections for the postgraduate course is ready to receive applications, and forms may be obtained from the American College of Radiology, 20 North Wacker Drive, Chicago 6, Illinois.

The course will be limited to 100 registrants with first preference being given to members of the American College of Radiology who served in World War II.

WAR ADVANCES ANESTHESIA

The war has markedly advanced the professional status of the anesthetist. As a result of the fine example set by a small group of well-trained men who volunteered early, and due to the influence of the high type of consultant appointed for the various theaters, the anesthetist in the army hospital was placed in a position that he enjoys in few civilian institutions.

The brilliant record set by military anesthesia is a challenge to all of us to provide a better and more complete service; it is a golden opportunity to advance the status of professional anesthesia.—K. C. McCarty, M. D., in Ohio State Medical Journal.

The Eye, Ear, Nose, and Throat Monthly tells of a new nasopharyngoscope which permits vision of the inaccessible pharyngeal structure—enabling the otolaryngologists to examine the "unexplored area."—R. N.

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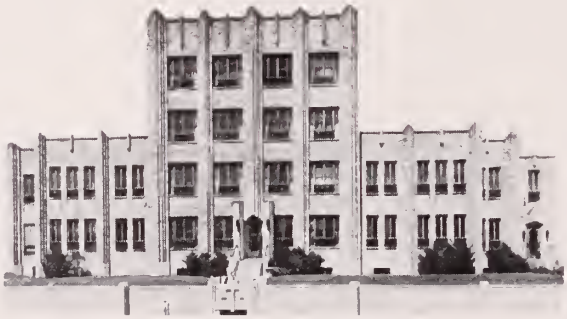

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Woman's Auxiliary

BARBOUR-RANDOLPH-TUCKER

The organization dinner meeting of the Woman's Auxiliary to the Barbour-Randolph-Tucker Medical Society was held December 19, at the Katherine Hitt Memorial Nurses' Home, in Elkins.

Mrs. D. E. Greeneltch, of Wheeling, state president of the Auxiliary, was the guest speaker. Her subject was, "Functions of the Auxiliary." She was accompanied to Elkins by Mrs. Carl S. Bickel, also of Wheeling, who is chairman of the auxiliary committee on exhibits. The dinner was served under the direction of Miss Irene Tobin, director of nurses at the Davis Memorial Hospital and was served by student nurses. The table decorations were in charge of Mrs. Charles Leonard.

The following officers were elected: President, Mrs. Junior W. Myers; vice president, Mrs. Charles Leonard; secretary, Mrs. W. E. Whiteside; treasurer, Mrs. J. L. Berley; and Publicity committee, Mrs. Paul D. Snedegar, chairman, Mrs. Guy H. Michael, and Mrs. Franklin B. Murphy.

Mrs. Junior W. Myers served as presiding officer at the meeting which was attended by twenty-one members.

MRS. PAUL D. SNEDEGAR,
Publicity Chairman.

* * *

CABELL

Dr. Rolla Kenaston was the guest speaker at the regular monthly meeting of the Auxiliary to the Cabell County Medical Society, held January 14, in the Crystal Room at the Frederick Hotel, in Huntington. He presented an interesting and informative paper on the work of "Alcoholics Anonmous."

Over one hundred doctors and their wives attended the annual dinner dance held at the Pritchard Hotel in December. It was announced that Mrs. D. E. Greeneltch, president of the Auxiliary, would be the guest speaker at the February meeting.

MRS. RAYMOND BAILEY,
Secretary.

* * *

HARRISON

A program on Infantile Paralysis was presented at the regular monthly meeting of the Woman's Auxiliary to the Harrison County Medical Society, held January 2, at the Waldo Hotel, in Clarksburg. Motion pictures concerning the treatment and control of infantile paralysis were shown.

It was unanimously agreed that the auxiliary should send letters to the members of the house of delegates from Harrison County and the senators from the thirteenth senatorial district asking their support for increased appropriations for the state health department and mental and tuberculosis institutions.

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KANAWHA

The following report, prepared by the Woman's Auxiliary to the Kanawha County Medical Society, has been submitted to Mrs. D. E. Greeneltch, the state president:

The Auxiliary to the Kanawha Medical Society is making an effort to interest every doctor's wife in becoming a member. The program is varied and should at some time be of interest to all.

We started this year by having "coffee' in honor of new members. The Executive Board was hostess for the affair, which was very successful. We gave each member and guest a name card which she pinned on her lapel, thus making herself known to all the others. These cards are worn at each meeting as we have many members and the attendance is quite different each time.

The second meeting was an informal luncheon at a member's house. Sandwiches were brought by the members and salad and dessert were served by the hostesses. Doctor Rossman spoke on "Mental Hygiene in West Virginia."

We entertain the doctors at an "open house" in March. This function is well attended and everyone has a good time.

Each Committee Chairman has a large committee helping her, and thus we have a cross section of opinions on which to draw. The Hygeia Committee is working hard.

Our Public Relations Committee has placed a speaker before the Junior League. Mr. Lively gave an excellent talk on "Medical Education."

Our outstanding event was probably our rummage sale at which we raised over $600 to pay our pledge of $500 to our new hospital. This required a great deal of work and everyone cooperated to the fullest extent.

We are all eager for our April meeting when a play written by Mrs. John Hash will be presented to the Auxiliary.

We are looking forward to the pleasure of entertaining the Auxiliaries of the state, May 12, 13, and 14, and extend through you to your Auxiliaries a hearty invitation to come to Charleston at that time.

MRS. J. PRESTON LILLY,
Publicity.

GERIATRIC MEDICINE BEGINS AT FORTY

When does geriatric medicine begin? Aging, which is change, is continuous and insidious. Aging is a part of living. It starts with conception and ends only with death. Nevertheless, geriatrics must begin somewhere in adult life. It is notable that clinical manifestations of senescence usually become readily detectable somewhere in the neighborhood of forty, although these more obvious changes are preceded by years of subtle asymptomatic alteration. It is therefore pragmatic to set the beginning of geriatric medicine at approximately the age of forty. Sometimes we need to consider senescence earlier, sometimes much later. We must not be too dogmatic about the age of forty, for there is considerable variation in the rate of senescence.—Edward J. Stieglitz, M. D., in J. Indiana St. Med. Assn.

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SIGNIFICANCE OF THE ELECTION

It is to be hoped that medical men will not be misled by the Republican victory at the polls in November. There is real danger that a good many of them will feel that the New Deal is dead, there is no longer danger that health legislation objectionable to the profession will be enacted. Of course, nothing could be farther from the truth.

What the election means to the medical profession is that it has been given a breathing spell for the next two years. It is safe to say that no health legislation similar to the Wagner-Murray-Dingell bill will be seriously considered by the next Congress. Nevertheless, Republicans, who now control both the Senate and the House, are on trial, and they know it. It is well to remember too that labor helped elect the Republicans, and they are not going to lose sight of this fact before the next election. It will not be too surprising if favorable consideration is given social legislation, some of it perhaps relating to medicine. The so-called Taft Health bill will receive a hearing, and in a modified form. Let it also be understood that none of the health legislation enacted during the Roosevelt regime will be repealed. Republicans are too realistic to undertake that, nor is there any particular desire on their part to do so.

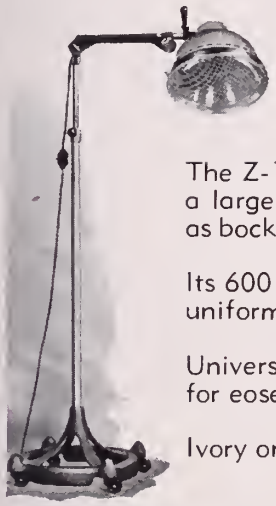
What is far more important than the political aspects of the election is the fact that the next two years will offer the medical profession a golden opportunity. During this period, organized medicine will be given time in which to make its national health program a reality. Prepayment medical plans, whose success to date has been dubious, will be given another lease on life. Medical societies which are just getting under way with their plans or have not made a beginning will have ample time to make a go of them. Needless to say, there are other aspects of health planning also in need of attention—group practice, diagnostic clinics, and improved methods for the care of the indigent.

Now is the time for vigorous and intelligent medical leadership to assert itself. If full advantage of the "breathing spell" is taken, the organized medical profession will be in a most satisfactory position when 1948 rolls around.—The Observer in Medical Annals of District of Columbia.

PSYCHOSOMATIC MEDICINE

One of the great medical achievements of the past few years has been the recognition of the part played by the emotions in disorders that were previously regarded as solely organic. Perhaps an achievement of equal importance will come from the realization of the part played by organic factors in what now is considered to be solely mental disease.

If it is too late to undo the harm caused by the subtle revision of the term "phychosomatic" then it may be necessary to devise an alternative. Thus, if psychosomatic is to be confined to organic disorders arising from psychic causes, then it may be counteracted by some such term as "somatopsychic" to be used in connection with mental diseases of somatic origin. It is hoped that no such clumsy circumlocution will be needed. No occasion for it will exist if the original meaning of psychosomatic is not distorted. After all, this word obviously was introduced in this form for the sake of euphony and not because of any design ascribing to one factor priority over the other.—New England Journal of Medicine.



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OBSTETRICS—Two Weeks Intensive Course storting March and April 28.
MEDICINE—Two Weeks Intensive Course starting April 7 an June 2.
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Vol. XLIII MARCH, 1947 No. 3

RENAL ASPECTS OF HYPERTENSIVE DISEASE*

By A. C. CORCORAN, M. D.**

Through the past hundred years thinking with reference to the renal aspects of hypertensive disease has gone full circle. It may shift again, for the mechanisms which cause the disease still are not thoroughly established.

More than a hundred years ago what we now call essential hypertension was included in the group of ailments termed Bright's disease. Some years passed before it was separated from glomerulonephritis and pyelonephritis and the distinction made between so-called primary and secondary renal disease. Finally, it was considered that hypertension is not a disease with any specific renal connotation and that such renal changes as occurred during its course were part of a generalized injury to blood vessels everywhere.

This line of thought was interrupted by the experimental demonstration of renal hypertension in animals.[1] The method employed was partial compression of the renal artery in a metal clamp. The compression was sufficient to restrict the pulse of the blood, and sometimes the flow of blood into the kidney. It was at first considered that the hypertension appeared as the consequence of renal ischemia. It is now known that this hypertension may persist when renal blood flow is quite within normal limits. Clinically, the course of experimental renal hypertension has much in common with the syndromes of essential and malignant hypertension in human beings. Another way of producing experimental renal hypertension was developed by Doctor Page.[2] This method entails the establishment of chronic perinephritis by wrapping one or both kidneys in silk or cellophane. The blood pressure rises as the capsule of scar forms and compresses the kidney.

The importance of experimental hypertension lies in the fact that a disease had been produced which could form the basis for controlled experimental study of hypertension. The fact of its existence again made it seem possible that hypertension is of renal origin.

The mechanism of renal hypertension was then explored. It had long been known that the kidney cortex contains a protein, the injection of which in animals raises arterial pressure for a period of from twenty to forty minutes, depending on the dose. This substance, which has so far eluded complete purification, is called renin. It does not act directly on the blood vessels and heart to increase pressure. Rather, it is a proteolytic enzyme.

As an enzyme, renin acts on a substrate. This substrate is another protein, a globulin, normally present in blood plasma and of hepatic origin. The interaction of renin and its substrate, called renin substrate, results in liberation of a third substance, angiotonin, a polypeptide which is split off from the substrate. This polypeptide is highly vasoactive. In very small amounts it causes an intense constriction of arterioles. Intravenous injection of angiotonin causes a briefly sustained increase of arterial pressure. Apparently, the response to renin is prolonged because

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injected renin slowly liberates angiotonin into the blood, while the response to angiotonin is short because it is destroyed in the circulation. The system consisting of renin, renin substrate and the product of their interaction, angiotonin, is called the renal pressor system. It constitutes a renal endocrine function. It seems likely, although the proof is not complete, that the mechanism of experimental renal hypertension consists in excessive liberation of renin into the blood with consequent formation of angiotonin and resultant arteriolar vasoconstriction of cardiac stimulation. There is some evidence to indicate that the reaction of renin and renin substrate in the body may form a product different from angiotonin in that it is not easily destroyed in blood.

At the least, it is probable that the mechanism of experimental renal hypertension involves the renal pressor system. The hypertension which occurs in the course of primary renal disease in man, that is, hypertension in glomerulonephritis or pyelonephritis or toxic nephrosis probably involves the same mechanism. Ultimately, renal damage occurs in the course of essential and malignant hypertension in man, and the renal pressor system very probably is active at this stage of the disease. The point at issue is whether or not this system is active in hypertension from the first onset of the condition.

The evidence is still incomplete. The sum of clinical and experimental observations leads to the impression that renal pressor activity is a characteristic more of the later than of the earlier stages of the disease. In the early stages of hypertensive disease, the course and nature of the vasoconstriction are more consistent with functional neurogenic than with renal hypertension. Indeed, renal biopsy in such cases shows no appreciable injury to renal vessels.[3] Present evidence suggests that renin liberation is a response to a change in the pattern of blood flow in the kidney. Since there is neither functional nor structural evidence of altered renal blood flow in early hypertension, it is quite possible that the early stages of hypertension reflect a disturbance in the nervous regulation of blood pressure; much has been written about the nature of the emotional changes in the hypertensive patient which might cause this. Unfortunately, the problem is clouded with preconceptions and the patients selected for study usually are those whose long years of disease have thoroughly overlain whatever may have been the initial upset. Consequently, the nature of the first stimulus to hypertension still is not clear.[4,5]

RENAL FUNCTION IN HYPERTENSION

Ultimately, however, hypertension alters and injures the kidney, both structurally and functionally. In considering these effects we are aided if we think of the kidney in terms of the unit of kidney structure. This unit is the nephron. Each kidney consists of about one million nephrons gathered together in a space saving arrangement.

The parts of the nephron are vascular and epithelial. The vascular part consists of one arteriole leading into looped glomerular capillaries and another leading out from the glomerulus, respectively, the afferent and efferent arterioles. This arrangement of capillaries between two arterioles is ideal for the filtration from the blood in the capillaries of water and substances dissolved in water. The glomerulus, then, is a filter bed. The tubule with its epithelium is a device to restore to the body from the filtrate those substances of which it stands in need.

The initial effect of hypertension on the nephron is vascular and affects the arterioles. Hypertension thus differs from glomerulonephritis, which primarily damages glomerular capillaries, and from pyelonephritis which attacks peritubular tissues and lymphatics. The functional effect of hypertension, which is duplicated by the injection of angiotonin, is vasconstriction of the two arterioles, afferent and efferent. This vasoconstriction is accompanied by increased arterial pressure. Depending upon the balance which obtains between the degree of renal vasoconstriction and the elevation of arterial pressure there may or may not occur a decrease in renal blood flow.

The efferent arteriole normally is narrower than the afferent. Consequently, equal degrees of vasoconstriction in the two tend to narrow the lumen of the smaller vessel proportionately more than that of the larger. The effect of vasoconstriction is, therefore, creation of a back pressure in the glomerular capillaries. Thus, while the patient with hypertension may or may not show a decrease in renal blood flow, he very commonly manifests an increased pressure in the glomerular capillaries. This increased pressure tends to squeeze out more water from the blood into the tubule.

The functional arteriolar change in hypertension is, then, vasoconstriction of afferent and efferent arterioles with a net increase in intraglomerular pressure. Ultimately, structural changes appear. These consist of hyalinization and degeneration of arterioles and small arterioles,

affecting principally the afferent arterioles and ultimately destroying the function of large numbers of nephrons. The continuance of this renal arteriolosclerosis leads to fatal renal injury. In essential hypertension the process of renal injury usually is so slow that disability and death are, as a rule, due to some extrarenal cause, commonly cardiac. But in malignant hypertension, the process of arteriolar damage is so rapid that the kidney is very rapidly damaged and death from uremia is common.

MEASUREMENT OF RENAL FUNCTION

There are no means presently available for the measurement of renal pressor activity, which may be thought of as an endocrine renal function. But the tests of renal excretory (exocrine) function have been developed to most satisfying completeness.

Technics are available which measure the rate of blood flow through the kidney, the volume of filtrate formed from the blood in the glomerular capillaries, and the relative amount of tubular tissue nourished by the blood. These technics, however, still are too cumbersome for routine clinical use. Rather, they serve as the background against which simpler tests of renal function may be evaluated and interpreted.

The simplest and, at the same time, most sensitive of these tests of renal function is the concentration test. The principle of such a test is to measure the degree to which the kidney can concentrate the glomerular filtrate. The specific gravity of glomerular filtrate is about 1.010. The normal kidney tubule can alter the specific gravity of the fluid to more than 1.030.

Any procedure which limits the amount of fluid intake stimulates the normal kidney to form concentrated urine. In practice, the most generally applicable routine, which is also highly sensitive, is that of Addis.[6] In this, the patient is told to abstain from all fluid, to take nothing which pours, or which can be made to pour, for twenty-four hours, usually from 8 a. m. of one day to 8 a. m. of the following day. He is told to discard all urine formed up to 8 p. m. of the day of the test. He is instructed to collect all urine formed during the last twelve hours of the twenty-four hour dry period, i. e., from 8 p. m. to 8 a. m. The specific gravity of this urine is measured. The same sample also may be used for measurement of urinary protein and for a count of the sediment (red blood cells, white cells and casts).

The specific gravity of the concentrated specimen should be greater than 1.025. If it is less than 1.025 it may be assumed that there is renal damage, unless there is some other factor complicating the test. The principal complication and one which renders the test uninterpretable is receding edema. When the body is losing fluid from the tissues it is obvious that restriction of ingested fluid does not stimulate the kidney to the extent that it would if no more than the normal body fluid were available. Less commonly, the urine is not concentrated because the solids are deficient. Such a deficiency is sometimes encountered in patients who for long periods have been on diets deficient in protein and salt. In the absence of these complications a low urinary specific gravity is evidence of impaired renal function. Roughly, a specific gravity of 1.020 indicates about 60 per cent residual function, and a specific gravity of 1.015 about 30 per cent residue. Since the point of departure for concentration of urine is 1.010, the specific gravity does not fall below 1.010 in advanced disease.

The other widely used test of kidney function is the urea clearance. Urea normally is present in the water of the blood. It is filtered out from the blood through the glomerular capillaries. A certain amount of the filtered urea is reabsorbed as the fluid passes down the tubules. About 60 per cent of the filtered urea appears in the urine. Under standard conditions of urine flow the fraction of urea excreted is constant and closely parallels the rate of glomerular filtration. Thus, while a normal result from a concentration test indicates that the kidney tubules can concentrate the fluid that is offered them, a normal result in the urea clearance test indicates that the amount of filtrate formed is normal also.

The two tests are usefully combined in the follow-up of patients with hypertension. In early hypertension and even in some advanced cases the urea clearance test often gives a normal result. This is true because the rate of glomerular filtration is well maintained. It is well maintained either because there is no decrease in renal blood flow or because increased intraglomerular pressure squeezes more water and urea out of less than the normal volume of renal blood flow. On the other hand, most patients with established essential hypertension and beginning renal arteriosclerosis show some inability to concentrate urine. The concentration test is, therefore, a simple and sensitive index of early renal impairment in hypertension.

When, in the later stages of renal damage, the ability to concentrate urine falls to 1.010, the only guide to further progress of renal damage is the

urea clearance test or, with less accuracy, the measurement of blood urea or nonprotein nitrogen.

The two-hour phenolsulfonphthalein (PSP) excretion test ordinarily is not useful in assessing the course of renal change in hypertension. But when the period of urine collection is shortened to fifteen or thirty minutes the results of the test tend to parallel the concurrent changes in renal blood flow. Unfortunately, the brief PSP excretion tests may be greatly disturbed by inaccuracies in urine collection or stasis in some part of the urinary tract. They are, therefore, applicable only when complete urinary collection is assured and when there is known to be no urinary stasis.

TREATMENT OR RENAL DISEASE IN HYPERTENSION

The discovery of experimental renal hypertension revived the concept that the cause of hypertension is primary renal arterial and arteriolar disease. This indeed may be the case in certain conditions, such as polyarteritis and exceptional forms of vascular disease. But in the majority of patients with hypertension the renal damage seems to follow rather than precede the increase of blood pressure. The clinical, as well as present experimental evidence, indicates that increased arterial tension is the principal factor in causing vascular damage in hypertension. Thus, the basic problem in preventing and treating renal disease in hypertension is the relief of high blood pressure. Unfortunately, no specific methods are available which accomplish this end. If they were, the greatest single cause of mortality and morbidity would be under control. But there are available a variety of general measures which tend to relieve high blood pressure, and in so far as they do this, tend to prevent and relieve renal damage resulitng therefrom.[7]

Most of the measures just referred to are familiar. Because they are familiar and undramatic they unfortunately are not applied with as much conviction and consistency as they should be.

Almost the first question which the patient asks in the course of treatment concerns his diet. There is some evidence that high protein and high salt diets tend to promote the advance of renal arteriolar disease, at least in animals already subjected to some form of renal damage. There is no evidence to suggest that a normal ration of salt and protein is injurious in normal animals or in animals or patients with minor degrees of renal damage. Recently, diets which are very high in both protein and salt (notably the rice diet) have been advocated for the treatment of hypertension.[8] Our experience with this regimen has not been encouraging. On the other hand, its use has not been wide enough to enable a critical appraisal other than the statement that in some patients no beneficial effect was observed. The present impression is that such diets have their application in patients showing definite renal damage and that in such patients valuable remissions may be induced. The distasteful nature of the diet prevents its wide use in patients with mild hypertension and the evidence at hand does not indicate that it has value in such cases. Even in the early stages of hypertension, the control of obesity by diet can reduce arterial pressure materially.

Sodium or salt restriction is of particular advantage in the control of congestive cardiac failure. Indeed, it seems probable that one of the major factors in the mechanism of congestive failure is retention of sodium by the kidney. The normal renal tubules can excrete urine containing about 1.5 per cent salt. This is the upper limit. The tubules have also a lower limit, so that even in states of complete salt deprivation, urinary chloride falls only to about 0.1 per cent. There is, therefore, a certain minimal chloride loss, and the extent of this loss may be increased by increasing the urine volume. Urine volume is increased by providing excess water. Consequently, the rational treatment of cardiac edema consists in the limitation of sodium intake by diet and the liberal provision of water.[9]

The diuretics used in practice do not increase urine flow by increasing renal blood flow. Rather, they increase urine flow by decreasing the amount of water reabsorbed in the tubule. They may do this osmotically, by causing the formation of urine of high specific gravity (e. g., glucose, sucrose, mannitol, sulfate) or they may do this by injuring the cell in the function of water and salt reabsorption. The latter is the mechanism of action of mercurial diuretics. While it depends upon a slight toxic effect on the tubule cells, it has been abundantly shown that such treatment does not cause progressive renal disease.

The functions of the kidney, then, are used in the treatment of edema. To use the kidney in this manner it is necessary that a considerable residue of normal function remain.

Turning back to the prevention of renal damage in hypertension, further questions arise concerning thiocyanate and sympathectomy. In regard to thiocyanate, a careful study in patients with essential hypertension fails to reveal any specific renal effect of the drug. In many patients

the treatment was associated with a decrease in blood pressure and in most with symptomatic relief of headaches. It is possible that the decrease in blood pressure is an expression of comfort and relaxation rather than the result of a hypotensive action of the drug. In using thiocyanate it is necessary to remember that deaths have resulted from its uncontrolled administration, particularly in patients with renal damage. It is necessary always to determine in the case of each patient the dose which will give a therapeutically effective blood concentration of the drug (6 to 12 mg. per 100 cc.). If no relief occurs when the blood level has been so maintained for from two to four weeks the drug should be withdrawn. If a response occurs and the drug is to be continued, blood determinations should be repeated at intervals of from four to eight weeks.

Section of lumbar and dorsal sympathetic nerves is widely used in treating hypertension. Some observers have attributed the beneficial effects of the operation to a release of renal vasoconstriction. Actually this is not the case. Rather, the mechanism by which such operations sometimes cause a fall in blood pressure, with accompanying symptomatic relief and with (it now seems likely) definite prolongation of useful life and prevention of arteriolosclerosis, is unknown. Until the mechanism is known there can be no rational and exact basis for the selection of patients for operation. Certain contraindications may be given, such as that the operation should not be done in patients who show marked arteriosclerosis, who are in the older group, or who show severe renal damage. The positive indications remain to be established.

Finally, in the past few years there has been some discussion regarding the use of vitamin A in the treatment of hypertension. A study of patients with hypertension who were given large doses of vitamin A concentrate showed no effect of the treatment on blood pressure. However, in about 6 out of 10 patients, there did develop during the treatment increased renal blood flow, glomerular filtration and tubular capacity. We have followed this apparent renal action of vitamin A concentrate further and have shown that the responsible agent in the concentrate is not the vitamin, but some unidentified material. The isolation of the active agent has not been accomplished. Clinically, we have prescribed vitamin A concentrate in large doses (100,000 to 200,000 U. daily) in many cases of renal disease of various forms. The results have not been dramatic. However, in the presence of otherwise hopeless and progressive disease, this form of treatment seems to offer some promise.[10]

SUMMARY

The kidney enters into the problem of hypertension by suffering functional and structural changes which may lead to renal failure. It seems likely that at least in the later stages of the disease the kidney also contributes, through the action of the renal pressor system, to the maintenance of increased arterial pressure.

The functional renal changes in hypertension result from arteriolar constriction and arteriolar sclerosis. The degree of each type of change can be evaluated by delicate methods of renal functional study now in research use. Practically, structural injury is the index of prognosis in assessment of renal damage in hypertension. It may be measured by use of the concentration and urea clearance tests of renal function. The concentration test is at once the simplest and most sensitive of the clinically available tests of renal function.

Therapeutically, the problem of renal disease in hypertension is that of hypertension itself. Control of hypertension by general measures contributes to the prevention and relief of renal disease. Thiocyanate and sympathectomy thus have indirect effects on renal function. Renal function is utilized in the treatment of edema in congestive cardiac failure. Data from clinical experiments indicate the presence in vitamin A concentrate of a substance which tends to increase renal function.

DISCUSSION

CHAIRMAN STEWART: I will collect the questions, if there are any, and then we will have them answered.

DOCTOR CORCORAN: Do we think that the use of salt to prevent heat exhaustion tends to make the blood pressure higher, especially if there is a tendency toward hypertension? I really don't believe it would, and in that connection I would think that the use of very low sodium diets under conditions in which heat exhaustion may occur may be very dangerous, and indeed already has been so shown. I don't believe the replenishment of the body store by the use of sodium chloride tablets under the conditions just mentioned will make the blood pressure higher.

What is the present status of renal extracts as anti-pressor substances? The answer to that one is that they are still under experimental study. The story goes something like this: It was shown that there occur in the kidney enzymes which de-

stroy angiotonin. We, therefore, started giving kidney extract to patients. The administration of these extracts to some thirty-eight patients with malignant hypertension, treated for very long periods, resulted in decreased arterial pressure, and in the recession of papilloedema and exudates and, in a good many of them, in improved renal function. Five of the patients are alive and three of them show no elevation of arterial pressure at the present time. The results are, therefore, sufficiently satisfying to justify further study.

It seems apparent to us now that it was not a specific effect, a neutralization of a pressor substance by an enzyme. It is more probable that it is in the category of nonspecific effects since many of the improvements were associated reactions to the injections. If a reaction can remove malignant hypertension, the more power to it, and one present program of study is to follow further the mechanism of these reactions and to control them and, later, we hope, to use them as an effective clinical mode of treatment.

What is the opinion on plasma concentrates, serum albumin, and protein hydrolysates in anasarca of nephrosis or acute nephritis with edema? Those of you who have treated such cases with plasma hydrolysates or protein hydrolysates or plasma, serum albumin and so forth, know that when the plasma or serum albumin is given a satisfying diuresis with loss of edema frequently results. This loss of edema is temporary. The level of plasma protein before and after treatment is unchanged.

One cannot, in my experience or in the experience of a great many others, increase the level of plasma protein, when it is low because of renal disease, by pushing in protein. One can increase the level of plasma protein when it is low because of a deficient protein balance, due either to loss of protein in the urine or to an extremely low protein diet.

I think that the effect that is sought after with these substance is one of starting a diuresis, of getting something going, a loss of edema, a loss of the belly fluid, and so on, as a clinical symptomatic aid. I don't believe it is a cure. The hypoproteinemia usually is a result of renal disease and will remain until the renal disease alters its pattern.

CHAIRMAN STEWART: Thank you very much. I am sure we are all very grateful to Doctor Corcoran for answering our questions in this excellent address.

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HYPERPARATHYDROIDISM

The parathyroid glands are the controlling influence in the regulation of calcium and phosphorus metabolism. Hyperfunction of these glands for a long period of time produces an increase in calcium and a decrease in the phosphorus content of the blood. This in turns leads to a series of changes which are most manifest in the urinary tract and the skeletal structures. The x-ray and clinical laboratory provide ready aid in establishing a diagnosis.

The excretion of excessive amounts of calcium and phosphorous in the urine and the increase of calcium and decrease of inorganic phosphorus in the blood may provide definite data upon which to make a positive diagnosis, even in the absence of definite bony changes visible on x-ray. The surgical removal of a diseased parathyroid gland provides one of the miracles of modern medicine today. Almost complete recovery occurs in these patients following the removal of the affected gland or glands. All signs and distressing symptoms disappear rapidly and the patient soon returns to his normal health.

Hyperparathyroidism is by no means as rare as it was considered twenty years ago. Twice as many women are affected as men. More than half of the individuals affected show evidence of urinary lithiasis. The diagnosis is readily established and surgical resection results in complete cure.—Christopher J. McLaughlin, M. D., in J. Med. Assn. Georgia.

FILARIAL INFECTIONS*

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World War II has brought about a dissemination of interest in, if not knowledge of, the tropical diseases. Under ordinary circumstances, knowledge of the subject is not so necessary or important to the general practitioner, but as a result of the service of our troops in all corners of the globe, the subject of tropical diseases has become one of interest also to you practicing in West Virginia.

While I do not know that filariasis is one of the tropical diseases you will encounter, there are several conditions that you will see, and because they appear in such bizarre forms clinically, a sharp eye must be kept out for them or they will be missed. I am thinking particularly of amebiasis and malaria, and dermatologists will have a very important problem in the aftermath of the atabrine dermatoses that were so troublesome in certain parts of the tropical theaters.

The subject of filariasis is not one that I would have picked as being of the most importance to you, but like all parasitic diseases, it is at least interesting. There are a number of genuses and species of filarial worms that infest man. However, there are only two of them that need concern us very much, and only one that is of great importance in so far as our troops were concerned.

The filaria Wuchereria bancrofti was really quite a problem, particularly in the Southwest Pacific. The Navy was harder hit by it than the Army, for, including the Marines, it had over 10,000 recognized cases. So far as our statistics show, the Army had about 2,200. Fortunately, the infections were comparatively mild, and in a few years they probably will disappear entirely.

The incidence of elephantiasis even in endemic regions is very low, a fraction of 1 per cent. You possibly may see an occasional case through the years. As soon as infections were recognized in our troops those affected were immediately evacuated from the centers, so that possibility of reinfection was eliminated. This greatly reduced the likelihood of elephantiasis.

Filariasis has been endemic in this country in some of the Southern states, a hangover from slave importation, and for a number of years it was a recognized entity in such areas. At this time, it has practically disappeared and the danger of dissemination of infection from the boys that have come back is rather remote. It is true we have Culex mosquitoes here, but the infections during the war generally were light, and the incidence of microfilariae in the blood stream was very low. There was not very much, therefore, for the mosquito to transmit. Because of the light infection of the blood stream, it was not until considerable clinical experience had been met with that the disease was recognized.

Without microfilariae in the blood stream there is not much chance of transmission and, even though a few Culex mosquitoes do become infected, climatic conditions here are not ideal for the propagation, or at least the development in the mosquito, of the phase necessary before it can be infective to the new host. We do not need to worry too much about filaria having been introduced into the United States. It is only the occasional, imported case that you will see.

I have said that there are only two filarial infections that need concern us particularly, the Wuchereria (or Filaria bancrofti) and the Onchocerca, which is of interest only as far as we are concerned, but of great economic importance in the endemic centers where it occurs.

Wuchereria has a rather wide geographic distribution that coincides closely with our active military theaters, particularly North Africa, the coasts of the Far East countries, and the islands of the Southwest Pacific.

The Culex mosquito (the night biter), and the Aedes (the day biter), are the vectors. The Culex is more widely distributed, and would be involved in this country if the climatic conditions were proper.

Figure 1 presents schematically the life history of Wuchereria bancrofti. One of the fascinating and fortunate things about parasites is the complicated mechanism which is necessary for these animals to persist. Their life history is so complicated that it is only by chance the adults survive and the species is perpetuated.

The larval microfilariae that are free in the blood stream of man are taken up by the biting mosquito. The larval form escapes from its shell and migrates to the muscles of the mosquito's thorax where it lies dormant for from six to twenty days or more, depending on climatic conditions. Finally, going through several metamorphoses, it becomes active again and migrates to the proboscis and from there it escapes when the mosquito bites. It is not injected directly as

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is the malarial parasite but it escapes through the membrane in the proboscis and crawls into the wound that the mosquito has made in the skin. The larva floats about the body in the blood stream and finally develops into the adult whereupon it seeks its habitat in the veins or lymphatics, predominantly in the lower extremities but occasionally in the upper. Ordinarily, it takes a year for the adult to mature to the point where it is discharging microfilariae into the blood, this being one of the reasons that the microfilariae were found in such a small percentage of our infected troops.

There are two species of the Wuchereria that affect man, the bancrofti and the malayi. Clinically, they are similar and their life history is the same, so we do not have to separate them in this discussion. It so happens that the malayi seems to have a greater predilection for the upper extremity and particularly for the female breast. Elephantiasis of the female breast usually is the result of the W. malayi rather than the W. bancrofti.

We were able to determine the period of incubation with more certainty as a result of our ex-

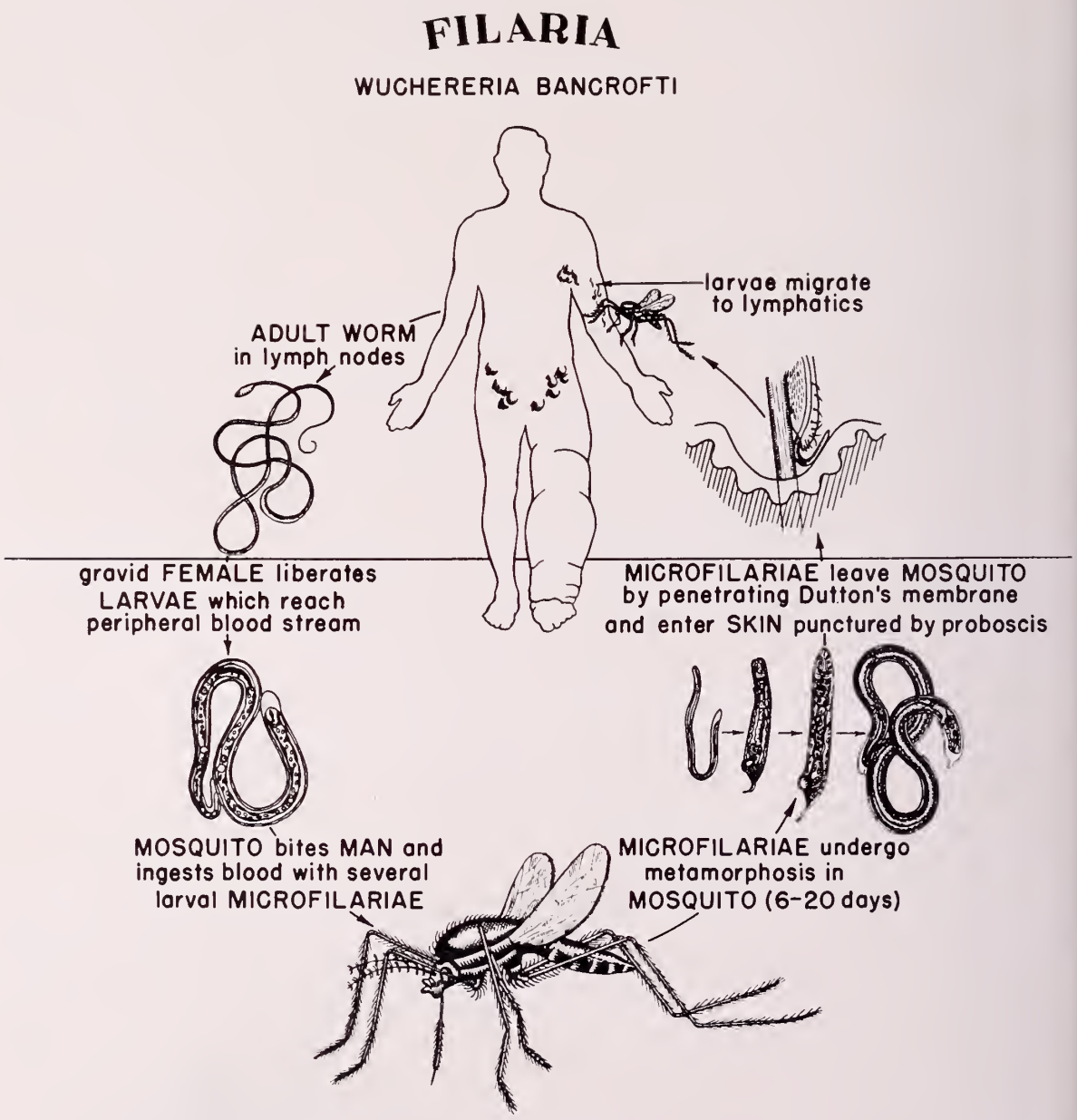

Figure I.
(From Pathology of Tropical Diseases, Ash and Spitz, W. B. Saunders Company, Philadelphia.)

perience, because dates of exposure and of onset of symptoms were known in many instances.

Starting out with the preconceived idea that the demonstration of the microfilaria in the blood was necessary for a diagnosis, it was some time before the problem was recognized. Most of the boys were examined several months before the adults had matured and, thus being still in the larval state, were not discharging microfilariae into the blood. But lodging, as they do, in the lymphatics, and so frequently in the groin, they produce a symptom complex which soon became recognizable and which enabled us to make a diagnosis.

The first evidence of disease, after the two or three months' incubation period, was the localized lymphadenitis. In a large number of cases (perhaps a third), there was involvement of the epididymis. Occasionally, the larva lodged in the axillary nodes and that too became a recognizable symptom.

In spite of the large number of boys that were infected, the morbidity was low. There was temporary incapacity due to fever, local swelling, and pain; and after remission, these symptoms recurred. The usual experience was that in time the interim became longer and the severity of the reaction became less, and finally, in the course of a year or so, the trouble disappeared. The great problem was psychological rather than physical. The boys were frightened. They pictured themselves becoming impotent and sterile. Most of the treatment, therefore, was directed to that phase of the problem. As a matter of fact, there is no specific treatment that has proved to be of much value. The antimony compounds are the most promising, so far. But if the patient is removed from the endemic center before he can be heavily infected, the condition usually will clear up.

The very early clinical manifestation of infection was lymph node enlargement and since this most commonly involved the inguinal nodes, it was very apt to be mistaken for one of the venereal infections. At times the axillary nodes are involved and the true nature of the condition is even less readily determined. The clinical picture that came to be of most significance, however, was the involvement of the epididymis. This is well shown in figure 2. The adult worms lodging in the lymphatics produce varicosities of the vessels with an accompanying inflammatory reaction.

As stated before, the deceiving factor in this early stage is the fact that the worm has not matured to the point where it is discharging

Figure II.
(From Pathology of Tropical Diseases, Ash and Spitz, W. B. Saunders Company, Philadelphia.)

microfilariae into the blood stream. A reason for the absence of microfilariae in the blood stream at a later stage is the possible chronic inflammatory reaction that may obliterate the lymphatics and prevent access of the organisms to the blood.

PATHOLOGY

There is seldom inflammatory reaction to the live adult worm, but if the worm dies or becomes jammed in a vessel too small for it, there may be thrombosis, organization, dilatation of the tributaries of the occluded vessels, or chronic inflammatory reaction in the neighboring tissues, which includes granulomatous lesions, particularly from fragments of dead worm. Eosinophils are histologically characteristic of the inflammatory reaction in the lymph nodes. This condition may be present when the worm itself is not evident, and sometimes it is sufficiently concentrated to be designated as an eosinophilic abscess. Exacerbation of the inflammatory reaction is manifested clinically by fever and intensification of local symptoms. The intensity of these reactions gradually becomes less and the interval between them longer until there is finally quiescence.

ELEPHANTIASIS

In epidemic centers, recurrent lymphangitis, with possible secondary bacterial infections, leads to a complete lymph stasis. In the early stages there is atrophy of the epidermis with edema of the true skin and dilatation of the lymphatics, with more or less plasma cell and eosinophilic

exudate. In the advanced stages there is extreme hyperkeratosis and the dermis becomes replaced by dense fibrous tissue. Contraction of the latter leads to the fissuring and irregularities on the surface so characteristic clinically.

The second filaria that is of interest, Onchocerca volvulus, has two major endemic centers, — one in Africa and one in the Central American countries, particularly in Guatemala, where it is really a major problem on the coffee plantations

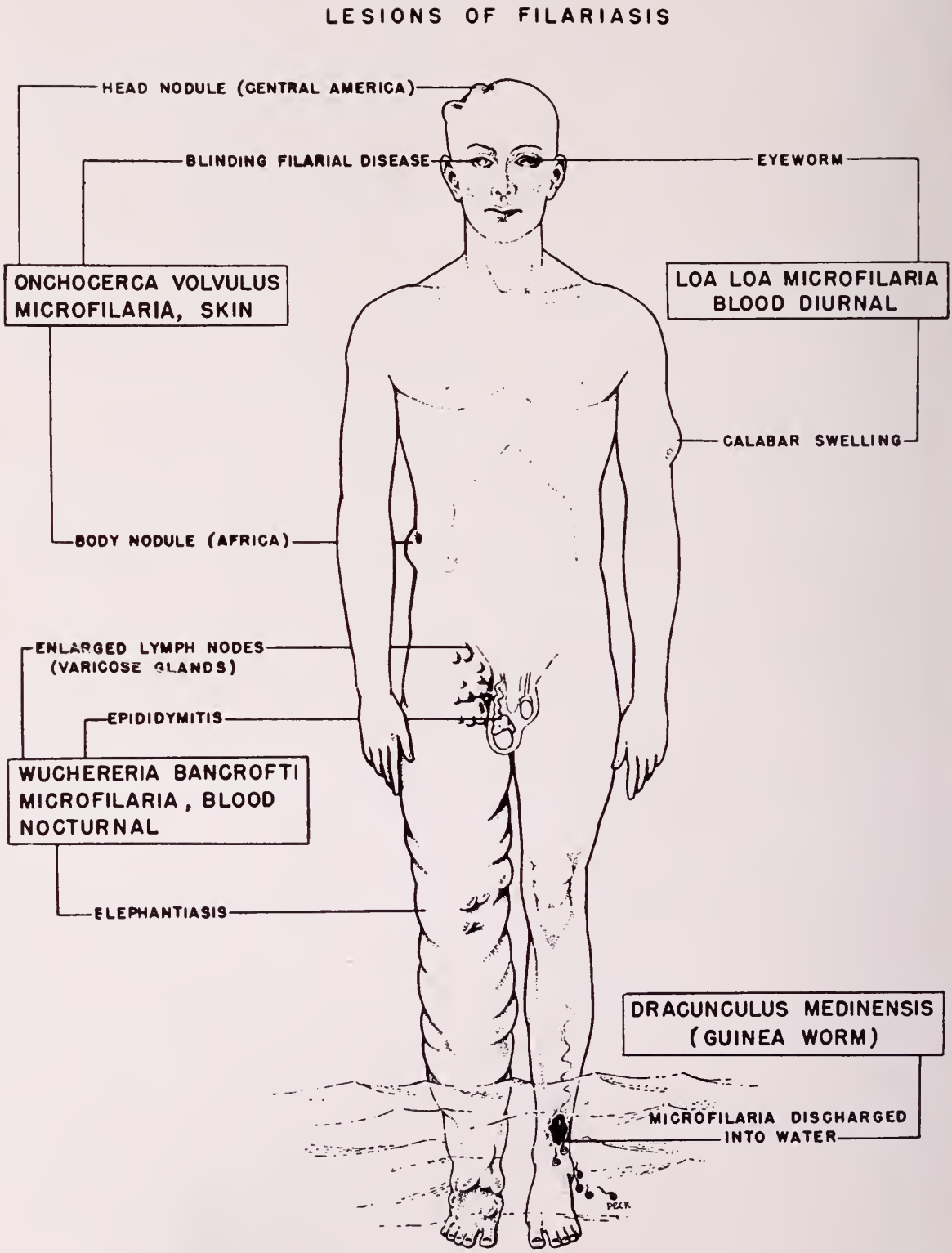

Figure III.
(From Pathology of Tropical Diseases, Ash and Spitz, W. B. Saunders Company, Philadelphia.)

at medium altitudes. Because of its predilection for the eye, causing blindness, the worm is called the "blinding filaria". The Onchocerca is a superficial worm, practically limited to the skin. It is transmitted by the buffalo gnat, Simulium. The first clinical manifestation is an erysipeloid skin lesion at the site of infection, plus a rise in body temperature. Eventually, the adult worms lodge in the skin in masses and produce the typical nodules. In Africa, these nodules are found chiefly on the trunk, but in Central America they are found most commonly on the scalp. The microfilariae are present in great numbers in the surrounding dermis, but also may wander for great distances and invade the deeper layers of the epidermis without any clinical manifestations. Here they can readily infect the biting vector. They are not found in the blood, however. Fibrosis eventually involves the nodules and destroys the worms. The nodules may become secondarily infected and troublesome to heal. The microfilariae have a predilection for the conjunctiva, particularly when nodules are in the scalp near the eye. They invade the cornea and lead to keratitis and iridocyclitis that eventuates in blindness. The only treatment is the surgical removal of the nodules.

The Loa loa is a comparatively harmless filaria particularly common in West Africa. The worm is long lived and travels about through the subcutaneous tissue not infrequently invading the conjunctiva, but it does little or no damage. It is not unlikely that you may come in contact with this parasite.

The guinea worm, or Dracunculus medinensis, is really not a filarial worm, but is the longest roundworm that is pathogenic to man and is one that possibly also you may see. It is endemic particularly in Africa, but is found also in the Malay states, India and parts of China, all regions in which our troops have been stationed. Infection is acquired by drinking water containing infected cyclops, or water fleas. The details of the life cycle in man still are not well known. In about a year after infection the female appears in the subcutaneous tissue, usually in the lower extremities, and may first manifest itself clinically by a small blister. When the blister comes in contact with water, the head of the worm emerges and discharges great numbers of microfilariae after which it dies. The adult should be removed before it dies, otherwise there may be troublesome secondary infection; or, the adult may become calcified, with resulting chronic granulomatous inflammation.

By way of capitulation, figure 3 shows diagramatically the salient features of each of the worms discussed.

In conclusion, I would warn you that in spite of the fact that these worms, together with many of the other parasites which our troops acquired in their overseas campaigning, are chiefly of academic interest to the general practitioner in this country, it is necessary that you be conscious of the possibility of the occasional case. Do not consider every case of inguinal lymphadenitis to be of venereal origin. It may be filariasis. Do not be too alarmed if a patient comes to you complaining of itching, burning sensations in some part of his body that give him the impression of something crawling under the skin. It might be just that – Loa loa!

PSYCHOGENIC DEAFNESS

World War II has left us as members of the medical profession a legacy of men with varying types and degrees of disability. The magnitude of this legacy cannot yet be fully assessed since it will increase considerably during the ensuing ten to fifteen years. However, at this time the government is paying compensation to approximately 1,300,000 veterans of this war with service-connected disabilities. This is an impressive figure representing about one out of every ten of the men in the armed forces.

Of much importance to the people of this country and to the medical profession particularly is the fact that one-third of this large number—more than 400,000—is made up of neuropsychiatric cases and that about one half of all beds in Veterans Administration hospitals are designated as neuro-psychiatric. An even more startling revelation is that some 240,000 of these neuro-psychiatric cases have somatic disabilities which are of functional origin.

Functional hearing loss in its most elementary form is a faculty of the normal mind and under control of the will. Objectively it is "inattention" or the capacity to "not listen." It is an active mental process whereby a block of resistance is introduced in the auditory channels somewhere between the cochlear end-organ and the cortical centers of hearing. This block permits the ever present noises of the tonic sound environment to reach the cortex but prevents their integration into consciousness. The average person is constantly aware of his sound environment, but easily engages in other spheres of mental activity until he wilfully removes the block and "listens" or pays attention to that which he wishes to hear.

Some people have the faculty of blocking out the sound environment so completely that physical stimulation is necessary to attract their attention. Others are distracted by the slightest ambient noise and become nervous and agitated because of it. With some the capacity to "not listen" becomes a habit, and it is not infrequent that these people are accused of being hard of hearing.—Edward H. Truex, M. D., in Conn. St. Med. J.

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THE ORGANIZATION OF MENTAL HYGIENE INTEREST IN A STATE AND ITS EFFECTIVE USE*

By GEORGE S. STEVENSON, M. D.
The National Committee for Mental Hygiene

Rather than attempt to give you a definition of mental hygiene, I should like instead to start off by telling you some short stories.

Some time ago it was discovered that a mental hospital in a neighboring state was not only failing to provide good medical treatment for its patients, but was actually abusing them. For punishment, cold showers, choking with towels, and severe beatings were not uncommon. A few of the public were aroused by these revelations and demanded that something be done. The state government evaded the issue until it was actually forced to face it. A change of hospital administration was made and some, but far from enough, improvements. These small local changes are but a gesture because actually these conditions arise from a system, and a change of personnel does not change the system. It merely makes the public feel that it has done its duty.

Actually if there is anything in the theory of democracy that the people are the government, it is the people who have been chronically negligent in this situation. They created the system which is at fault. They did not mean to be callous, but it is unpleasant to many people to think about mental hospitals and mental illness, especially if one is not too sure of his own stability. It is more comfortable to have these hospitals off by themselves. In the case just mentioned the people perpetuated their neglect for the legislature refused to vote funds needed to provide adequate training and salaries for attendants, although it did engage a well qualified state commissioner in charge of its hospitals.

This deficiency in mental hospitals is too widespread to be explained in terms of poor administrators or poor attendant personnel. Of course, a better staff can improve a hospital, but that is not enough. The system is at fault; a system which isolates these hospitals, and makes them vulnerable to all sorts of pressures. It encourages a public attitude that is tolerant, if not demanding, of cheap hospital care for these "worthless human derelicts". The state to which I refer is beginning to sense the fact that it is its citizens who make mental hospitals what they are, and now it is trying to organize those of its citizens who have a conscience about this matter, who realize that they are the government and who cannot excuse themselves for derelictions by their representatives and servants.

We have been shocked by the failure of the common man in Germany to feel responsibility and guilt for the atrocities of Dachau and Buchenwald. Of course, Germany never had a democratic government for a period to instill such a feeling of responsibility. But what can we say about Americans who likewise feel no responsibility for these, our own, atrocities? Is this not a critical point at which to try to make America safe for democracy?

Many years ago Pinel, of France, took cognizance of the cruelties and neglect in mental hospitals and showed that patients could be handled intelligently with full respect for humanity. Then Dorothea Dix came along fifty years later and had to repeat the story because the public had been rather content to allow the bad conditions to continue. In close cooperation with the American Psychiatric Association she was successful in establishing many mental hospitals, but still the public was content to let the care of the mentally ill drift along and set its own level and was pleased not to be reminded of the problem. And so forty years later Clifford W. Beers again had to espouse the cause.

For twenty-five years, Dr. Samuel W. Hamilton, now with the United States Public Health Service, has brought before the authorities, and sometimes before the public, the great and universal need for improving mental hospitals. He has not dealt in generalities, but in studies of individual hospitals. He has shown that it is insufficient for us to depend upon those to whom we delegate our responsibilities without keeping a contant vigilance as to how the job is being carried out.

The great excuse and complaint of government in explanation of the deficiencies of hospitals has been its inability to get personnel. The great barrier to progress in our mental hospitals has been the refusal of government to see that its inability to get personnel is not primarily a defect of psychiatry or of medical schools, but the defect of the system within which those trained in psychiatry are allowed to work. Doctors cannot be attracted to psychiatry when this system is all that can be offered them. Scientific progress is blocked by this stagnation. Government has failed to see that this is a sign that the system is wrong and needs to be changed. When it is changed medical schools will have something of greater promise to offer those who come into this field, and research and progress will appear.

*Presented before the Annual State Health Conference, at Huntington, West Virginia, May 2, 1946.

When we ignore these internal things within our states and our country, these things that form the foundation upon which we as a nation are built, we are on the way toward losing the peace and our world leadership. And when I say world leadership I am not talking about dominance, or ruling the waves, or accumulating deposits of gold, but rather the opportunity to contribute to the living of that enigmatical species of mammalia known as man.

And now for my second story. During the past two years several meetings have been held to determine how the public health nurse can be helped to deal more effectively with those showing early signs of mental disturbance, and with the conditions that are conducive to the development of mental disorder. In her work with families she comes very frequently into touch with these things, but has had relatively little preparation to deal with them. It is she who has the opportunity to instruct mothers in the handling of children and in matters having to do with their sound mental development. In rural areas she encounters mental deviation long before it comes to the attention of a psychiatrist, and she is in an especially strategic position to influence the atmosphere in which children grow up. The psychiatrist seldom has this latter opportunity. It is recognized also that nursing education, even for public health nursing, gives little or no preparation to deal with this. On the other hand, our schools of social work have made these matters a part of their central theme. How can this experience of such schools be adapted so that material which is of importance to the public health nurse shall be made a part of her equipment? It is easy to see that this also is a matter of mental hygiene.

My third story has to do with general medicine. Every doctor is confronted with patients. Patients come to doctors, for the most part, because things are not going right, and when things do not go right human beings uniformly develop an emotional condition that is known as anxiety. Some are more sensitive, some are less. But anxiety tends to affect people in certain predictable ways. The study of anxiety has had a relatively small place in the professional training of doctors and so when they are confronted with it they do not know what to do about it and sometimes they make it worse. For example, to tell a patient with anxiety that "there is nothing wrong" and "not to worry" further increases his anxiety, for prior to this advice he had some faith that professional guidance would solve his problem for him. We know that anxiety is reduced when it can be shared with other people and that patients value this fact when consulting a doctor.

Following the order "to be calm" and "not to worry", etc., the patient is alone. There is no one left to help him. People who are in trouble want to talk with somebody, not just anybody, but some one in whom they can develop a deeper confidence than that which has initiated the contact. And so while they will discuss the weather and a few other relatively indifferent topics with this unknown doctor whom they have chosen to share their worries, they will not go very far until they have assayed that person to see how sympathetic he is, to see how straight is his thinking and how valuable is his contribution. The patient stalls, he feints, he clinches by repeating parts of his story over and over again and in this way hopes to come to know his doctor better, or it may be his social worker, his teacher, his lawyer, his minister, his nurse, etc. If the doctor urges too hard when he stalls, scolds him when he feints, or calls him uncooperative when he clinches, he really chases the patient away. How to deal with anxiety and how to talk with patients has a great deal to do with the early discovery and treatment of mental illness, and so is a matter of deep concern to mental hygiene.

It would be possible to tell you other stories about communities that have striven successfully to provide clinics for children who are showing beginning deviations, about industry that has recognized that the crux of its effective relations with labor is the quality of its management and its concern for people. We could tell stories about the one room country schools that have done marvelous mental hygiene work through the fact that they know the families and the local potentialities for fostering the growth of children who are making poor progress. We can see how our larger cities have failed in this respect because of their loss of contact with the things that favorably influence these children. The greatest cause for poor learning in school is limited intelligence. A child may have limited intelligence and still develop in such a way as to be a happy and productive adult. Constant disappointment and failure may make him chronically maladjusted.

It is upon the daily work of the teacher, the lawyer, the doctor, the social worker, the public health nurse, the minister and others who help people in need or in trouble that the mental health of the community depends. It is they who can best exercise the influences that are necessary to develop with the family the needed atmosphere for healthy development. It is upon that leader-

ship within the community and state that the furthering of mental health depends.

From what I have said you may gather the impression that mental hygiene is considered as covering the universe. I see no point in conceiving of mental hygiene as anything less narrow if the range that I have presented contributes to the early detection of mental illness.

You see it is inescapable that the anatomical subject of concern to psychiatry, that is, the person himself, makes contact with and is influenced by as broad a variety of conditions as the life in which he moves. The cardiologist has not quite that serious a dilemma, for his anatomical subject, the heart, has remarkably consistent conditions under which to live. Its relation to its neighbor remains fairly constant and its climate will change only over a very narrow range.

Nevertheless, I have a suspicion that other branches of medicine as well are, in the long run, subject to circumstances that are just as broad as those influencing psychiatry. Those who deal with tuberculosis and veneral disease would certainly tend to agree with that conclusion. Therefore let us not be unrealistic in objecting to a broad problem on the grounds that it is broad.

Many studies have been made to determine the incidence of mental ill health in communities in various parts of the country. Some differences exist depending upon peculiarities of culture and location, but for the most part these differences are insignificant. The incidence of mental deviation runs fairly evenly throughout the population. It is, therefore, to be expected that people in professional positions, such as I have referred to, if they have their eyes open, will sense the great poverty of service provided for the prevention and th handling of these deviations. These persons exist in any state and without knowing the specific details, it can be safely predicted that there are within West Virginia enough of such persons to constitute an effective nucleus for the organization of interest pointed toward the promotion of mental health. The thing that is needed primarily is the individual leadership that will bring these people together, consolidate their power and attract to them those followers who can lend weight and force, even if not initiative.

Thus the first step in the organization of mental hygiene interest in a state is the discovery of this leadership. The second step is the discovery of other effective, energetic persons, and the third, the augmentation of these by a less aggressive, but valuable statewide membership. In the effective use of such an organization it is important to remember that figureheads have limited value, and that the interest of a membership can be maintained only by real activity that can be respected as more than busy work. Thus the effective use of such an organization must be through a program which, first, defines the needs of the state, and, secondly, outlines the steps that must be taken to meet these needs . The effective use of such an organization depends upon its creation and activation of special committees, committees that cover all of the functional fields of service in which mental health is involved. These committees would have to do with the care of the mentally ill, the care of the mentally defective in institutions, provision of mental deficiency in public schools, the church and mental health, etc. Cutting across these it would mean operational committes, committes having to do with legislation, publicity, etc. It is essential that the work that is expected of committees and the members of committees be kept within their actual capacities. If we expect too much of people the job simply does not get done.. This means that the chairman of committees cannot be expected to do the whole job. In fact the usual arrangement for chairmen to do the work and the rest of the committee to sign on the dotted line needs to be reversed. The chairman should be thought of as the person to do none of the work excepting to divide the labors and see that the individuals to whom they are assigned actually cover the assignment.

But as with organizations, so with the effective use of the organization, a dependable executive is needed. Experience has shown that as a rule this can be gotten only by a paid executive. It is he who will see that the committees are kept active, that some of the tasks that are beyond volunteer service will be done by these committees, and that the recommendations of the committees will be carried through as planned.

West Virginia is in no way unsual in its problems of mental health. If these problems are to be understood and dealt with, it will be only through some such organization as I have outlined above. It would seem to me appropriate that the authority under whom we meet today should take the responsibility for initiating this through the appointment of a steering committee whose task it would be to get it under way. If some other groups also appoint committees, let them work jointly rather than competitively. In this, of course, the National Committee for Mental Hygiene and, I believe, the United States Public Health Service would do everything possible to give assistance.

RECONSTRUCTIVE SURGERY IN AN ARMY GENERAL HOSPITAL

By LT. COL. HOWARD A. SWART, M. C.,
Charleston, West Va.

Patients come to Army General Hospitals in the United States, the so-called named general hospitals, from three to twelve months after having been wounded overseas. In the meantime, they have passed through battalion aid stations, clearing stations, evacuation hospitals, and general hospitals overseas before reaching the general hospitals in this country where final reconstructive surgery is done. These hospitals are of various types. There are centers for neurosurgery, plastic surgery, hand surgery, eye surgery, etc. Orthopedic surgery is practiced at all of the general hospitals in this country, its type being influenced by the number of special kinds

FIGURE I (a)

a. Preoperative non-union fracture right femur.

of work done in the hospital. For instance, at the Newton D. Baker Hospital, at Martinsburg, the specialties stressed were neurosurgery, plastic surgery, and hand surgery. Thus, the ununited fractures treated were those associated with nerve injuries to the humerus, ulna, radius, and femur. Since few fractures of the tibia are associated with nerve injuries, a comparatively small number of such cases were encountered.

The great majority of patients treated came into the hospital with fractures, united or ununited. A large proportion of these were associated with chronic osteomyelitis. Many patients also had nerve injuries. We found the radial

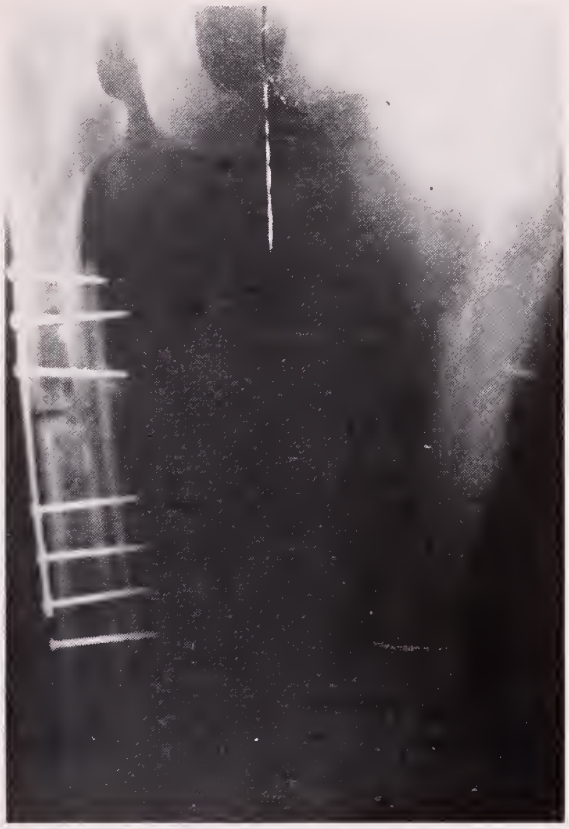

FIGURE I (b)

b. Following application of stainless steel plate and onlay bone graft.

nerve to be the one most commonly injured. The ulnar, peroneal, tibial and median also were frequently involved. In many patients there was loss of muscle with deep scarring. Ankylosis of joints, partial or complete, was almost universally found. In practically every case of fracture of the femur necessitating prolonged immobilization, loss of knee motion resulted.

The treatment of chronic osteomyelitis now has been pretty well standardized. If there is still drainage after two months following the last operation, further surgery is indicated. This consists of wide saucerization. All dead and loose bone is removed and a wide shallow, saucer-like cavity is made, even though this involves the removal of much normal bone. We used to think that all sequestra could be seen in the x-rays, but in many cases we found sequestra which had not

been thus apparent. Foreign bodies, such as pieces of clothing, metal, rubber, grass and even tightly packed crystals of sulfathiazole at times were encountered. The cavity just referred to is packed open with gauze fluffs and mechanic's waste is tightly bound over this, using semi-elastic bandages. Penicillin, 20,000 units every

FIGURE II (a)

a. Non-union of radius with loss of bone and mal position of fragments.

three hours intramuscularly, is given two days preoperatively and five days postoperatively. At one time we used penicillin locally also, through a tube leading into the wound, but as no good results followed, this practice was abandoned. Likewise, the systemic use of the drug is of questionable value.

In from seven to ten days the wound is covered with clean granulations and split thickness skin grafts are applied in ribbons to the area. In a surprisingly large percentage of cases these grafts take and the wound dries up.

Now we are left with a skin-lined cavity variable in size. The skin in question will not stand up under the stress and strain of ordinary living so it is replaced by full thickness skin, either by a cross leg flap or a skin tube from the abdomen. This is done by the plastic section. The length of time involved is great but is justified by the results. Thus we avoid the thick, scarred skin which formerly had been allowed to granulate following saucerization in the treatment of osteomyelitis.

In cases of nonunion, bone grafting is the operation of choice. In the Army the massive or onlay graft from the tibia is used in most cases. This is true especially when stability is desired. In fractures of the tibia the inlay graft obtained from the same leg or from the opposite leg is used. In many cases various lengths of the entire bone (femur or tibia) had been shot away and it was necessary to use a large amount of bone to fill the gap. In addition, a stainless steel plate was used for stability. It has been found that it is wise to use the plate in all femoral and humeral fractures in order to provide the strength necessary to prevent fracture of the graft. In the arm it is not so essential to fill gaps as the bones may be shortened with little disability resulting.

In the past year the use of iliac bone has become very popular. It is especially valuable in filling bone defects either in malunited, clean fractures or in cavities left following sauceriza-

FIGURE II (b)

b. Showing application of onlay bone grafts and realignment of fragments.

tion. Iliac bone is spongy, cancellous bone and is best used with its cortex removed. Where stability is not desired, it is ideal as it proliferates much more rapidly than tibial bone. It does not lend itself well to the replacement of large amounts of cortical bone because of its curved contours. In

many cases of combined nonunion and nerve injury, it is possible to repair the nerve and do the bone graft at the same time, thus saving the patient a second operation.

From the opening of our hospital in January, 1944 until April 15, 1946, we performed 180 bone graft operations, as follows:

Femur	7	Chip grafts	29
Humerus	36	Tibia	19
Ulna	41	Metatarsals	9
Radius	25	Clavicle	1
Ulnar Radius	12	Hip	1

We see many cases of foot drop (due either to irreparable peroneal nerve injury or loss of muscle) which are treated by a foot stabilization operation of the Lambrinudi type. In this operation a wedge of bone is removed with its base distally while the foot is held in the position of equinus. The wedge includes a part of the os calcis, the astragalus, the navicular and the cuboid bones. When the foot is brought up to

FIGURE III (a)

a. Non-union of humerus with gap between bone ends.

90 degrees, it becomes fixed in this position and can not drop.

In old fractures of the os calcis and astragalus with intermittent pain, triple arthrodesis is done. Arthrodesis, or fusion of the shoulder, knee, ankle or elbow, has been done for instability due to the loss of muscle or to nerve damage as in brachial plexus injury, or extensive loss of bone.

In 17 cases in which there was extreme stiffness of the elbow we performed arthroplasty. This is done with the use of fascia taken from the thigh. Good results followed in most of the cases. If 65 degrees of active motion is obtained, the result is

FIGURE III (b)

b. Showing stainless steel plate and onlay bone graft. Good progress toward union.

considered satisfactory. There is always some instability resulting, either great or minor in degree. Infection has vitiated some of the results, but even in some of the infected cases, the final condition was satisfactory. Arthroplasty is done only when the patient is going to follow a sedentary or light type of work. In cases of men who do heavy labor, arthrodesis is considered preferable.

For chronic recurrent dislocation of the shoulder, we did the Nicola operation early in our work at the hospital. In this operation the long head of the biceps muscle is transplanted through a tunnel in the head of the humerus. Because of reports that the end results of this operation were unsatisfactory, we later took up the Bankart operation. This is much more difficult to perform, technically, and consists of drilling holes in the

medial side of the glenoid fossa and suturing the capsule to the glenoid through these holes. The capsule is also overlapped. The results in these cases cannot be evaluated because they have been performed too recently.

For acromioclavicular separation we did the Bunnell operation in 8 cases. In this method two

FIGURE IV (a)

a. Chronic dislocation of acromio clavicular joint.

holes are drilled in the distal end of the clavicle and one in the acromion. A strip of fascia lata, 12 inches by ¾ inches, is threaded through the hole in the acromion, through the distal hole in the clavicle, around the coracoid process, back up through the proximal hole in the clavicle and sutured to itself. A piece of wire also is placed in the same position for added protection. The results have been good in these cases, in so far as we know.

It has been advocated that resection of the distal end of the clavicle in cases of acromioclavicular separation will give good results. We did not try this method but in one case of nonunion of the clavicle, where it was impossible to apply a bone graft, the distal end was removed with apparently no resulting disability.

We performed operations on the knee for fractured cartilages, osteochrondritis dissecans, loose bodies, etc. We found that in order to completely remove the internal semilunar cartilages two capsular incisions should be made, one in front of and one behind the internal lateral ligament. One skin incision is used. This method was introduced because of the apparent poor results in the early cases when the conventional operation of removing the anterior four-fifths of the cartilage was done. After we began getting these patients out of bed to walk on the third postoperative day, there was a rapid return of function without the knee stiffness which was present when the knee was splinted for from seven to ten days. Most of the patients regained complete function in from four to five weeks.

Results in all cases are not completely satisfactory, however. We did bone grafts in cases two months after drainage of pus had ceased. The operation was preceded by one week of provocative massage in which the operative area is

FIGURE IV (b)

b. Following Bunnell operation with use of fascia and wire. Dislocation is shown corrected.

massaged vigorously each day in an attempt to light up inflammation. The two month waiting period is far short of the six months thought necessary in civilian practice. When I began the study of orthopedic surgery nineteen years ago, it was thought wise to wait at least two years before operating on a bone which previously had been the site of osteomyelitis. Obviously, it would be impossible to wait such a long period of time before operating on soldiers. As a result, in too large a number of patients clean surgery is followed by a lighting up of the old infection, necessitating removal of graft, saucerization, etc. Also, the necessity of waiting for long periods of time for fractures to unite, or for plastic procedures to be completed, results in more and more joint ankylosis, and atrophy of bones, muscles and nerves, thus reducing the percentage of good results.

In all of the hospitals excellent reconditioning programs have been set up. Well equipped physical and occupational therapy departments have been established. Extensive exercise programs are carried out on the wards for those patients unable to get out of bed. After a certain stage of recovery has been reached, the patients can go to the gymnasium where exercises suited to their needs are given.

The mental state of these men is surprisingly good. Of course we had a few actual psychiatric cases. But all of these men underwent many months of hospital treatment overseas and face many more months of hospitalization in this country with very few complaints. The great factor in lifting morale was the overseas thirty day furlough. Every man, as soon as he was able, was allowed to go home for thirty days and was given as many sixty hour week-end passes as possible.

In conclusion, it may be stated that the orthopedic surgery carried out in the named Army General Hospitals has been of high quality. The treatment of chronic osteomyelitis has been definitely improved and the various methods of bone grafting advanced. Likewise, the surgical procedures have produced a large percentage of successful results. It has been said that the medical care of the wounded soldiers in World War II has been the best ever provided, and from my experience I can fully endorse the statement. The condition of the men returning from overseas has been uniformly good and we, on this side, have done our best to carry out those procedures calculated to advance their progress to as near a normal physical state as possible.

CARCINOMA OF THE COLON

The value of periodic health examinations, especially in patients past middle age, is nowhere better exemplified than in the detection of carcinoma of the colon and rectum. A careful history will often elicit a change in bowel rhythm, usually frequent movements of feces mixed with blood and mucus.

In cancer of the lower bowel bleeding occurs in a large percentage of cases, and hemorrhoids should not be accepted too readily as the source of the bleeding. Digital rectal examination and sigmoidoscopic examination are imperative as is also a barium enema. If the x-ray examination is negative and suspicious clinical symptoms persist, the x-ray examination should be repeated.

The operative mortality in colon surgery is being materially reduced by the use of sulfonamide preoperative preparation and by more careful attention to postoperative care, especially in the use of transfusions and amino-acids. The preoperative use of sulfonamides has also increased the safety of primary anastomoses with reduction in the number of multiple stage operations and the necessity of longer hospitalization. Vascular and pulmonary complications are unquestionably being reduced by postoperative ventilation and exercise and early rising from the bed.

The unwarranted dread of a colostomy can be obviated to a great extent by proper instruction of the patient regarding its care.—Albert F. Hardt, M. D., The Pennsylvania Medical Journal.

NEED FOR RESEARCH

At the present time diseases of the heart and blood vessels, especially the latter, take the highest toll of life. Such terminal events, in all likelihood commencing years before the finality of the blood vessel accident or episode, certainly show themselves in a much higher percentage in adult and late adult life.

The occurrence of coronary artery disease with occlusion in youth has recently been emphasized. These heart and blood vessel changes are usually seen as tissue changes in the process of repair, as indicated by the laying down of fibrous tissue in the place of a protective endothelium and functional muscle tissue. The familial incidence and, of more significanse, the age incidence in the development of such disease cannot be questioned. Basic research of a chemical order in an attempt to learn the nature of those chemical changes, the modifications in blood vessel tissue metabolism, and tissue metabolism in general, in which such vessels that are associated with aging share, has certainly lagged in its applied interest.

The older microscope type of investigation, perhaps for want of an adequate chemical technique, continues to dominate investigations concerning the cause of heart and blood vessel disease. This most important problem will be solved only with the discovery of the biochemical constitution of tissues as they advance from an age period of relative nonsusceptibility to vascular disease into that middle-age segment in which their susceptibility is marked and at which time such changes often terminate life.—Wm. DeB. MacNider, M. D., in Southern Medicine & Surgery.

PERMANENT IMMUNITY TO POLIO

A U. S. Army Medical Commission unearthed the startling fact that 90 per cent of the population have had polio in a sub-clinical form at some time, with resultant permanent immunity.—R. N.

TIME OUT

Some men are ill and need meticulous care and protection, whereas others with symptoms no less severe are simply worn out mentally and physically and in grievous need of a vacation. It is then the attending physician's problem to size the situation up—to be sure that there is nothing really wrong, to take such measures as are necessary to prove that this is the case and then to insist that his patient take a vacation, one to his own liking and, above all, *sine die*. To place a sharp limit on the duration of a tired man's vacation automatically nullifies its beneficial effect.—New England Journal of Medicine.

The President's Page

The West Virginia Public Welfare Law of 1936 placed the administration of welfare needs at the state level. The intent of the law was to provide, so far as it was possible to do so, for the permanent protection of West Virginia's citizens against the recurring misfortunes of life. There was created a Department of Public Assistance and its main functions were old age assistance, aid to dependent children, general relief, and aid to the blind. To the extent of available funds, always inadequate, a good job has been done.

It was evident at the start that medical care would constitute a considerable part of public assistance. In fact, sickness of some sort was expected to be the most frequent cause of people being on relief rolls. The Department accordingly, in collaboration with the State Medical Association and the Hospital Association, adopted a plan for providing medical and hospital care for the recipients of aid. The Department had accepted as sound certain policies which the Council of the State Medical Association had laid down, and the plan followed these policies. Among other things was an expressed willingness of members of the medical profession to contribute their services with a remuneration of only a fraction of current fees. It was emphasized that the fees agreed upon did not represent adequate compensation for services rendered and that physicians were merely willing to contribute their share in a great "humanitarian" effort. The plan undertook medical care in the home and in the hospital and included acute illnesses, emergencies, and obstetric care.

The Department of Public Assistance is now in its eleventh year of operation, and we may inquire into what extent medical care for the indigent has been paid out of tax funds and what part of such care has depended upon the generosity of hospitals and doctors. For the care of recipients of aid a hospital has been allowed $3.00 per day for medical and $3.25 for surgical cases. All items of hospital care are included except necessary x-ray examinations, which are paid for on a schedule approximately one-fifth of normal charges. For nearly a year the per diem allowance for hospital care has been increased to $4.50, but this is far below the actual ward bed cost which in most instances ranges from $6.00 to $8.00. If the patient undergoes an operation, the surgeon may expect to be paid from one-fourth to one-third of what he would charge a regular patient. The obstetrician fares somewhat better and his remuneration is about 50 per cent of normal. The general practitioner fares the best of all and may claim one-half to two-thirds of what he is accustomed to charge the public.

Under the existing arrangement, it would appear then that state aid pays about 40 per cent of the normal cost of medical care for the indigent sick and that hospitals and doctors absorb the other 60 per cent. It is well enough to say the hospitals and doctors are generous and "humanitarian," but, after all, patients who are able to pay are really paying the deficit. The principle is wrong, and the idea is becoming generally accepted that it is the duty of the state to pay in full the cost of medical care for all those people who are unable to pay the cost.

The Board of Public Works has approved a 50 per cent increase in the appropriation of funds to pay the cost of medical care for the indigent sick. With the present case load, the approved increased appropriation is still inadequate to pay a reasonable cost for people on relief rolls and can offer no aid, as must be offered in the future, to a larger group of "medically indigent" people who are not destitute but whose meager incomes may provide food and shelter but are inadequate to pay the cost of sickness care.

W. H. St. Clair

President.

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WHITHER THE GENERAL PRACTITIONER?

As we listened to the recent Chicago programs on Medical Service, Medical Education, and Medical Licensure, we could not refrain from asking ourselves the question presented in our headline. The emphasis placed upon specialty certification by the Armed Forces during the war, and by the Medical Department of the Veterans Administration since, appears to have stampeded medical students and recent graduates specialty-ward.

In a large midwest medical school, of 204 students polled as to the type of practice they intended to engage in, 202 gave a specialty. The end of the preceptorship (which we deplore) will of necessity lessen considerably the number of candidates for certificates because there will not be nearly enough residencies to absorb the applicants. This will leave the frustrated segment of the specialty-minded the choice between entering a specialty without the possibility of certification and engaging in general practice. Doubtless many of these will do general work, for it is becoming increasingly obvious that, a few years hence, only the very exceptional man without certification, can become a success in any specialty of medicine.

Dr. Cleon Nafe, an outstanding student of medical trends, presented an idea which seems to us to have much merit. He would have 50 per cent of residencies reserved for those who have had five years' general practice, and would give the applicant time credit, say two years, for this general experience. Such a precedure would not only furnish for the general public much more general medical service, but doubtless many who began general practice intending to specialize would find this field so attractive they would remain in it as a life work. Moreover those with the general experience would appear to have a better background for specialization.

To Dr. Nafe's proposal we would add the idea that the prospective specialist should have as a preceptor during his probationary years of general practice a certified man in the specialty to be entered later.

We have been informed that Indiana, Kentucky and Virginia are subsidizing medical students who will contract to practice a certain number of years in a small community before moving to a center of population. This idea has much to commend it and we predict its spread as it will not only tend to aid in furnishing sufficient general practice to needy communities but will also aid financially needy students to complete a medical education.

Still another interesting and we believe meritorious suggestion presented was that for a short time during the senior year each medical student should be assigned to a preceptor who should be a general practitioner in a small community. However, these preceptors would have to be very carefully chosen.

The best developed and probably the most practical plan offered was presented by Dr. Ward Darley, Dean of the University of Colorado Medical School. At the Colorado General Hospital in Denver the interneships and residencies are set up for the training and development of general practitioners. The practicing profession of other large towns in Colorado are integrated into the training so that part of the time in residence is spent in actual work outside Denver.

At the last meeting of the House of Delegates of the American Medical Association, a resolution was presented asking for the approval of a certifying board for general practitioners. The reference committee receiving the resolution, after due consideration, recommended that it be referred to the section on general practice for report and recommendation at the June, 1947, meeting. Whether such a certifying board

would accomplish what its proponents hope for, or not, is a moot question, but certainly the proposal is worthy of serious consideration.

There is definite need for many general practitioners and this need will continue throughout the predictable future. Surely American Medicine and American common sense can provide a means of meeting the need, and we agree with Dr. James Raglan Miller's recent statement that "too many tears have been shed over the impending fate of the general practitioner; he is and always will be the cornerstone of medical care."

THE CIVILIAN QUESTIONNAIRE

The Committee on National Emergency Medical Service, under the chairmanship of Dr. Edward L. Bortz, of Philadelphia, is sending out to 5,000 physicians who remained in civilian practice during World War II a comprehensive questionnaire, the object of which is to evaluate medically the war emergency from the viewpoint of civilian practice.

We would urge upon all West Virginia physicians who receive this questionnaire the necessity of filling it out promptly and completely. Some time and thought will be necessary, but the information called for is necessary to plan for future emergencies, and it is hoped that each recipient will fill in and return the form promptly.

SENATOR TAFT'S VIEWS

Probably nothing now warms the heart of a physician more than to hear one high in the political life of America, regardless of party affiliation, speak out boldly against the iniquities of state medicine. Last month we complimented our own Governor upon the forthright stand he assumed in his address to the Legislature. Recently Senator Robert A. Taft, of Ohio, in a radio address, flatly opposed compulsory governmental sickness insurance. Of course, Mr. Taft's pronouncement does not come as a surprise for he has made no secret of his opinion since the subject of sickness insurance was first proposed as a part of the original Social Security Bill.

Commenting editorially upon Mr. Taft's address, *The Journal of the American Medical Association* in the January 18 issue says:

"On January 3 Hon. Robert A. Taft, senator from Ohio, spoke over the facilities of the National Broadcasting Company on "A Republican Program." In the course of the address, which appeared later as "Extension of Remarks" in the Congressional Record, Senator Taft referred briefly to the place of health in the program. He said:

> So also in the health field we are proposing a program to assist the states and local government in making their treatment of the indigent and medically indigent more systematic and complete. We should encourage the formation of plans for voluntary health insurance to be available to those who wish to take it out. On the other hand, we strenuously oppose the Wagner-Murray-Dingell bill, which attempts to impose a complete system of compulsory sickness insurance on all the people in the United States. That plan would tax the people to raise four or five billion dollars a year to pour into Washington to be used by a federal bureau to pay all the doctors to give free medical care to all the people of the United States. It is not only a socialization of medicine but it is the federalization of medicine. No other measure before the American people proposes such a tremendous increase in the right of the federal government to interfere with the daily lives of the people. It flies in the face of every principle for which the Republican Party stands.

"The language is direct; the principles are sound; the message is heartening! * * *

"On January 10 also Senator J. William Fullbright, Democrat of Arkansas, for himself and Senator Taft, introduced a proposal for a new Department of Health, Education and Security in the Cabinet. This proposal would put all health, social security and educational functions of the government under supervision of a new Cabinet officer. Already conferences are being developed in which representativs of various national organizations concerned with these functions in our civilization will meet to interchange views on the principles which should prevail in the establishment of such an agency and on the qualifications of the personnel selected to administer the services. The proposal would seem to be a much needed step toward assembling the medical functions of the federal government in a single agency with direct access to the Cabinet. This is a principle for which the American Medical Association has contended since its organization one hundred years ago. The fact that President Truman suggested its adoption in his message this year and that the proposal comes under joint sponsorship of both major political parties would seem to indicate likelihood of early enactment.

"In his message President Truman referred also to the desirability of legislation in behalf of the establishment of a National Science Foundation. At a recent meeting of the American As-

sociation for the Advancement of Science, leaders in many fields of science including medicine, proposed early conferences with a view to improving on the text of the Kilgore-Magnuson bill, which passed the Senate last year. On this subject Senator Taft said recently:

> We are also proposing a measure to set up a permanent scientific foundation to promote research in many fields. Our measure creates a scientific council of fifty leading scientists to select the director and determine the scope of the work. This is a substantial modification of the Kilgore-Magnuson bill of the last session, which authorized the President to appoint a director with fifteen bureau chiefs and an elaborate organization, directly subject to political pressure.

"Here again there would appear to be a desire to give government back to the people. * * *

"Physicians who have fought unceasingly in behalf of the fundamental principles of freedom in the intimate affairs of our lives and in the further advancement of medical science, which has reached, under our system of government, the highest level ever attained anywhere in the world, will read in these words a promise of success for our objectives. Physicians know the importance of unimpeded respiration for health and vitality. Apparently we may—at least for a time —breathe easier."

On February 10, Senator Taft, on behalf of himself, and Senators Ball, Donnell and Smith, introduced in the Senate a bill proposing the annual distribution, upon a population basis, of two hundred million dollars to the individual states, each of which would be required to match its federal allotment, to provide free medical and dental services to the needy. Special sums are to be earmarked as follows: Dental care (first year), eight million dollars; cancer control, ten millions; a National Institute of Dental Research, two millions; a survey of health and medical care resources, three millions; and a dental care survey, one million dollars. This bill also provides for the consolidation of all federal health activities into one agency, exclusive of those of the Army, Navy and Veterans Administration.

Upon introducing the bill, Senator Taft, speaking for all four co-sponsors, released the following statement:

"The bill we are proposing, proceeds on the theory that the United States already has a comprehensive medical service, as good as any in the world, but that there are gaps in the service, particularly in reaching the lower income groups. Our bill encourages and assists every state to fill up these gaps, building upon the existing foundation. Free service will be furnished to those unable to pay.

"Voluntary health insurance plans will be encouraged, so that health insurance may be available to the great numbers of those who desire it, without forcing anyone, patient or doctor, to abandon his present practices."

P & A

A medical pundit, on a recent visit to Detroit, suggested that a future Procurement and Assignment Service at the onset of future hostilities will blanket all medical men into the military service at one administrative swoop so that there will be a complete and thoroughly unified control of the profession. The impression was that such a procedure would be less fraught with the inequities produced by P & A in the recent war.

Lest our memory of recent events become so dulled that we miss the overtone in the proposal, be it recalled that over 60,000 practicing physicians and residents in training became medical officers for 12,000,000 odd members of the various armed forces. This spread the pattern of medical care pretty thin among 120,000,000 civilians without much regard for the basic needs of population groups. Most of the doctors who turned to the military did so by virtue of that compulsion to do their share as citizens of the United States: but it cannot be said that P & A was not averse to employing procedures other than an appeal to patriotism in order to meet its regional quotas.

No such tactics as the threat, "If you don't enlist, we'll certify you to your draft board and you'll be drafted as a private without regard for your professional skill," seems to have been advanced at other professional groups. There were a lot of flat-footed doctors with perforated ear drums in the Army—but there were a lot of professional athletes, radio entertainers and ballet dancers who never got closer to a uniform than standing next to one in a D. S. R. streetcar.

So what goes on in high level planning? What makes the medical profession the focal point of attack by proponents of socialism (one aspect) or a future P & A (which may be the military aspect of the same thing)? —William Bromme, M. D., in Detroit Medical News.

RETINOBLASTOMA HEREDITARY

Retinoblastoma, a tumor of the retina, is hereditary, according to Harold F. Falls, M. D., of Ann Arbor, Mich.

Writing in the January 18 issue of The Journal of the American Medical Association, Dr. Falls points out that both eyes were affected with retinoblastoma in female identical twins. The condition appeared at approximately six months of age in both. Because the parents refused either surgery or x-ray treatment for the pair, a fairly rapid extension of the tumor within the skull led to the death of both children.

Dr. Falls states that "it is my sincere conviction that parents producing any child with retinoblastoma should be strongly urged to stop all child bearing. It is also advocated that any person surviving enucleation for retinoblastoma be sterilized."

General News

PLANS NEAR COMPLETION FOR 80TH ANNUAL MEETING AT CHARLESTON

Plans are progressing satisfactorily for the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 12-14. While some of the speakers who had tentatively accepted invitations for the second week in June have been compelled to cancel engagements since it became necessary to advance the date of the meeting to May, most have accepted the new dates. With the exception of a few speakers to be supplied by sections and societies, the program has been completed.

Scientific sessions will be held in the auditorium of the Shrine Mosque, on Capitol Street, directly opposite the Daniel Boone Hotel.

The entire ground floor of the WCHS Auditorium will be used for scientific and technical exhibits. All of the thirty-seven spaces set aside for technical exhibits have been reserved, and Dr. Hu C Myers has just about completed the allotment of space for scientific exhibits. A total of one hundred thirty-nine lineal feet has been allotted for use of the committee on scientific exhibit. Booths have been reserved by the Woman's Auxiliary to the State Medical Association and the Auxiliary to the Kanawha Medical Society.

All exhibits will be set up on Sunday, May 11, and the auditorium will be opened to members and guests Monday morning, May 12, at nine o'clock.

Several entertainment features are being arranged by the Kanawha Medical Society. Dr. Randolph L. Anderson has been appointed by Dr. Spencer L. Bivens, president of the Kanawha Society, as chairman of a committee to arrange a tennis tournament. Dr V. L. Peterson heads a committee to arrange a golf tournament. Both tournaments will get under way Sunday, May 11.

Several society and section breakfasts and luncheons have been arranged, and the annual banquet and ball will be held Wednesday evening at the Daniel Boone Hotel.

Hotel accommodations are still available, and reservations should be made directly with the participating hotels, Daniel Boone, Holley, Kanawha, Ruffner and Worthy, in Charleston.

ACS SECTIONAL MEETING

The first of a series of seven sectional meetings of the American College of Surgeons will be held in Baltimore, March 10-11, with headquarters at the Lord Baltimore Hotel. Maryland, the District of Columbia, and surrounding states will participate. The medical profession at large, medical students, and hospital personnel are invited to join with the Fellows of the College in the meetings which will be addressed by nationally prominent visiting and local speakers.

Dr. Harry C. Hull, of Baltimore, is chairman of the committee on local arrangements.

LEGISLATURE PASSES BILLS OF INTEREST TO MEDICAL PROFESSION

Several of the bills introduced in the legislature which are of interest to the medical profession were disposed of by the middle of February.

Chief among the bills passed and sent to the Governor were the mental and tuberculosis institutions bills. The mental institutions bill provides that persons may enter institutions for treatment without being formally committed, or that they may be committed by a physician or a health officer in the absence of objection from relatives. In criminal cases, commitment may be made by circuit courts and by county boards of mental hygiene.

The tuberculosis control bill empowers circuit courts to order commitment of persons suffering from contagious tuberculosis who refuse to be hospitalized. A maximum daily rate of one dollar is fixed for the care of tuberculous patients in an institution.

The bill providing for the licensing of practical nurses is still in the House Committee on Health as this issue of the Journal goes to press (Feb. 20). At an open hearing held by the committee on February 13, no appearance was made by the proponents of the measure. However, strong opposition developed among representatives of practical nurses.

The bill drafted by the state insurance commissioner providing for interstate and intrastate reciprocity between hospitals and medical service plans has been passed by the Senate and sent to the House. Another House Bill (H. B. 52) providing for the merger of city and county health units has been passed by both branches of the legislature and sent to the Governor.

The hospital licensing bill (S. B. 51), amended to postpone the effective date from July 1, 1947, to July 1, 1948, has been passed by both the Senate and the House.

The Senate has passed the House bill (H. B. 13) which empowers prosecuting attorneys to order autopsies without the consent of the next of kin in cases where there is reason to believe that persons have met death through unlawful acts.

The so-called "Christian Science Bill" (H. B. 9), carrying the amendment offered by the legislative committee of the State Medical Association and accepted by the proponents, was passed by the Senate February 19. The bill was passed by the House January 31.

The sixty-day constitutional limit for the session will expire Saturday, March 8, and there is no indication at this time that there will be need for an extended session.

NEW OFFICERS

At the meeting of the National Conference on Medical Service, held February 9, at the Palmer House, Chicago, the following officers were elected for the ensuing year:

President, Creighton Barker, New Haven, Conn.; Secretary, E. F. Sladek, Traverse City, Mich.; Members Executive Committee, Cleon A. Nafe, Indianapolis, Indiana, and Britton E. Pickett, Carrizo Springs, Texas.

LEGISLATURE ACTS TO ACQUIRE NEWTON BAKER GENERAL HOSPITAL

Formal action has been taken by the West Virginia Legislature with reference to the acquisition of the Newton D. Baker General Hospital, at Martinsburg when and if it is declared surplus property by the Veterans Administration.

House concurrent resolution No. 6, introduced by Mrs. Nell W. Walker, of Fayette County, has been adopted by both the Senate and House of Delegates. The resolution follows:

HOUSE CONCURRENT RESOLUTION No. 6—"Raising a Committee to negotiate a grant of the Newton D. Baker Hospital, Martinsburg, West Virginia, by the Federal Government to the State of West Virginia."

WHEREAS, The Interim Committee on Health, created under House Concurrent Resolution Number Four, Regular Session, West Virginia Legislature, one thousand nine hundred forty-five, has recommended that the interest of the State of West Virginia in acquiring the Newton D. Baker Hospital, situate at Martinsburg, West Virginia, be kept alive and furthered wherever possible; and

WHEREAS, The use of said hospital now being made by the Veterans' Administration is temporary in nature, as is disclosed in the following communication received from said Administration:

VETERAN'S ADMINISTRATION
Washington 25, D. C.
Sep 26 1946

In Reply Refer to: IICAA

State of West Virginia
Legislative Interim Committees
Charleston, West Virginia
My dear Mr. Amos:

Reference is made to communication dated September 6, 1946, signed jointly by Mr. Arnold Vickers and yourself as Co-Chairmen, and advising that the State of West Virginia is interested in ultimately acquiring the Newton D. Baker Hospital.

The Veterans' Administration will utilize the Newton D. Baker Hospital to temporarily provide facilities pending construction of the new permanent hospitals in West Virginia. This will require a period of approximately two (2) years.

Very truly yours,
(signed) J. E. Harris
Chief, Requirements Division
Real Estate Service

and;

WHEREAS, It may be possible for the State of West Virginia to acquire said Newton D. Baker Hospital after the Veterans' Administration has made the use of it above referred to, or subject to said use, if desires of acquisition are properly presented to federal departments and authorities having jurisdiction of the matter; and

WHEREAS, Like institutions have been granted to the States of Ohio and Virginia and to other of our sister states; and

WHEREAS, There is great need in the State of West Virginia for the utilization of an institution having the capacity of Newton D. Baker Hospital in the administration of a health program; now, therefore, be it

Resolved by the House of Delegates, the Senate Concurring therein:

That the presiding officers of the Senate and the House of Delegates be, and they are hereby authorized and directed to secure the offer of a grant of the Newton D. Baker Hospital to the State of West Virginia and said officers are authorized, empowered, and directed to negotiate such a grant of said hospital from federal authorities, officers, and divisions having jurisdiction in the premises, and what said officers shall do hereunder, they shall report back to this or any succeeding Extraordinary or Regular Session of the Legislature.

The expenses of said officers in furtherance of the duties herein imposed upon them shall be paid from the contingent fund of the Senate and contingent fund of the House of Delegates, in equal amounts.

The Clerk of the House of Delegates is hereby directed to forward copies of this Resolution to the members of the House of Representatives and members of the Senate representing the State of West Virginia in Congress

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WOMAN'S AUXILIARY IN ATLANTIC CITY

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 9-13, 1947.

Requests for reservations should be sent immediately to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

ADVISORY COUNCIL NAMED TO ASSIST IN WEST VIRGINIA HOSPITAL SURVEY

A state advisory council has been appointed by Governor Clarence W. Meadows, to consult with the state health department in carrying out the purposes of the Hill-Burton hospital construction act, passed by Congress last July and approved by the President August 13, 1946.

The bill itself provides that an advisory council be designated before an application for funds can be approved.

The bill further provides that the council shall include "representatives of nongovernment organizations or groups, and of State agencies, concerned with the operation, construction, or utilitization of hospitals, including representatives of the consumers of hospital services selected from among persons familiar with the need for such services in urban or rural areas, to consult with the State agency in carrying out such purposes."

The following is the complete list of the advisory council appointed by the Governor:

Non-governmental organizations: Bishop John J. Swint, Wheeling; Stanley Turk, Ohio Valley General Hospital, Wheeling; and L. Mason Brooks, Fairmont.

State agencies: J. Z. Terrell, president of the board of control; Robert F. Roth, director department of public assistance; and E. B. Pennybacker, compensation commissioner.

Medical profession: Dr. Paul H. Revercomb, Charleston; Dr. Oscar Biern and Dr. R. J. Wilkinson, Huntington; Dr. M. H. Porterfield, Martinsburg; Dr. R. O. Rogers, Bluefield; Dr. William R. Laird, Montgomery; and Dr. Andrew E. Amick, Lewisburg.

Labor: State CIO President John B. Easton; President E. A. Carter and Secretary Volney Andrews of the West Virginia State Federation of Labor, both of Charleston; George Titler of Beckley, William Blizzard of Charleston and C. Fremont Davis of Fairmont, all district United Mine Workers presidents; and J. M. Houchins, Bluefield.

Coal industry: Walter R. Thurmond, Charleston; and Joseph Pursglove, Morgantown.

Railroads: H. P. Henshaw, Huntington.

Agriculture: J. O. Knapp, director of the agricultural extension division, West Virginia University.

Veterans: T. H. (Pat) McGovran, director of the state department of veterans affairs, Charleston.

Oil and Gas: L. L. Tonkin, Hope Natural Gas Co., Clarksburg.

State Hospitals: Dr. G. E. Gwinn, Pinecrest sanitarium; and Dr. Joseph Knapp, Weston state hospital.

Nursing profession: Miss Martha Wooddell, Clarksburg.

Public at Large: Henderson Peebles and Mrs. Oscar Nelson, Charleston.

Negro business, professional and labor groups: T. G. Nutter, Charleston; and Dr. A. D. Belton and W. H. Nelson, Beckley.

OB. AND GYN. CONGRESS

The third American Congress on Obstetrics and Gynecology will be held at the Municipal Auditorium in St. Louis, September 8-12, 1947.

The program that is being arranged will be of interest to doctors, nurses, hospital administrators, public health workers, and medical educators who are interested in the care of the mother and child. It is planned to have a complete scientific and educational exhibit, a motion picture program, and a large technical exhibit. One interesting feature will be daily demonstration of technic in forceps and breech deliveries.

Information concerning registration fee, hotel reservations, and further details about the program may be obtained from the Office of the Congress, 24 West Ohio Street, Chicago 10, Illinois.

HOSPITAL SURVEY PROGRESSING

The survey or inventory of the present hospital and health facilities in West Virginia which is being made under the provisions of the Hill-Burton Hospital Construction Bill, passed by Congress and approved by the President last August, is progressing satisfactorily and should be completed within the next few months.

It is hoped that the statewide plan for adequate hospital facilities will be completed by the first of June, so that West Virginia will not lose its first federal allotment for hospital construction.

The State Health Department has heretofore been designated by the legislature (Chap. 100, Acts, 1945) as the sole state agency to cooperate with the federal government in the hospital construction program. Governor Clarence W. Meadows recently appointed an advisory council to work with the department of health in this important undertaking.

Hospital survey schedules of information have been sent to all the general hospitals in West Virginia The outline for the schedules was furnished by the commission on hospital care, which is an independent, nonpolitical public service committee, inaugurated by the American Hospital Association to study hospital facilities and services. The questions in the schedules are so arranged that they can be answered by checking listed items or inserting a few descriptive words.

It is planned to have field workers visit each hospital, and they will be prepared to review the schedules and assist hospital administrators complete the form. The information furnished will be treated as strictly confidential. Only the final tabulation will be published, and no individual institution will be identified.

All inquiries regarding the work should be addressed to Hospital Survey and Planning, West Virginia State Health Department, Charleston 5, West Virginia.

NAMED HEALTH OFFICER IN CALIFORNIA

According to the Journal of the American Medical Association, Dr. Charles C. Hedges, who formerly served as fulltime county health officer in several counties in West Virginia, has been appointed health officer of Tulare County, California. He has been serving as health officer of Kings County, with headquarters at Vallejo.

NEW DIRECTOR FOR VD CONTROL

Dr. Andrew P. Sackett, medical officer in charge of Kanawha Valley Medical Center (VD), in South Charleston, has been appointed acting director of the bureau of venereal disease control in the state health deaprtment. He succeeds Dr. John Hume, who resigned in August, 1946, to take special work at the school of hygiene and public health at Johns Hopkins University.

In addition to his duties as acting director of the bureau of venereal disease control, Doctor Sackett will continue as medical officer in charge of the rapid treatment center in South Charleston.

WILL OBSERVE "ARMY WEEK"

Army Day will be observed on Monday, April 7, and this year, for the first time, the War Department has arranged to celebrate "Army Week", beginning April 6 and running through April 12.

The purpose of Army Day and Army Week programs is to honor America's soldiers, living and dead, who did so much to make peace possible; to call attention to the new peacetime pattern of national defense which is being developed; to make the public aware of the Army's assignments both at home and abroad; to explain the need for a well-trained efficient Army of volunteers adequate both in size and quality to discharge its designated duties as this country joins all United Nations in building permanent world peace; and to bring the people and their Army closer together in our national community.

The War Department will conduct many activities nationally to support Army Week, including national advertising and radio programs, public statements and the dissemination of public information. But most of the activity will be conducted locally, in the cities and towns of the country. During the week, Ground Forces and Air Forces will put on demonstrations and exhibits. Army posts and installations and National Guard armories will have "open house" on certain days (to be announced locally). And many patriotic, civic and fraternal organizations will join with the Army to celebrate the occasion.

As has been the case since 1928, when it was started on April 6, the anniversary of this country's entry into World War I, Army Day this year is sponsored by the Military Order of the World Wars. Because the date falls on Easter Sunday, the celebration will be observed on Monday, April 7.

CANCER SOCIETY TO MEET

Dr. A. W. Oughertson, Medical and Scientific Director of the American Cancer Society, will be the guest speaker at the dinner meeting of the West Virginia Cancer Society to be held Friday evening, March 14, at the Hotel Chancellor, Parkersburg, in connection with the annual meeting of the society. His subject will be, "The Medical Aspect of the Atomic Bomb on the People of Japan." At the meeting to be held following the dinner, Mr. Robert Hudgens, Assistant Business Director of the American Cancer Society, will present a paper on "Service."

Workshop meetings on Saturday morning, March 15, will be divided into periods and organization will be directed by county commanders. A panel on information centers is scheduled and all of the women who are aiding in these centers are expected to be present. Panels on "Campaign" and "Service" will also be held.

Dr. Zoe Johnston, of Pittsburgh, Chairman of the Board of Directors of the Pennsylvania Cancer Division, will be the guest speaker at the luncheon on Saturday.

A meeting of the Executive Committee of the West Virginia Cancer Society is scheduled for Friday afternoon, March 14.

DOCTOR McLANE IN CHINA

Major Robert A. McLane, Jr., M. C., of Masontown, is still located in China, and the following interesting communication was received from him the first of February:

Shanghai Detachment Hospital
c/o Shanghai Detachment
APO 917 c/o PM San Francisco

Dear Mr. Lively:

Your timely greetings for the Christmas Season arrived, also, the many communications that you have forwarded to me relative to medical practice and the West Virginia State Medical Association. For these greetings I wish to express my sincere appreciation and thank you.

Since the end of World War II, rather, since VE and VJ Days, we have been experiencing social upheaval. This change is especially apparent in the Far East where the standard of living of the great masses of peoples is of a low standard. It has been my privilege and pleasure to be able to view a small part of this complex "revolution" first hand. This explains in part why I have not returned to civilian life.

At present I have a regular commission in the United States Army and do not contemplate taking up practice in civilian life for the next two years. You have been more than diligent in running me down over the entire world during this war, and for those communications from the Medical Society I am indebted to you. I trust you will continue to carry my name on the roster of the Medical Society of the State of West Virginia and that you will bill me for dues as an active practitioner.

Thank you again for your personal as well as official pursual of us in the past few years via the United States Mails.

Robert A. McLane, Jr.

PRELIMINARY PEDIATRIC REPORT

Dr. Russell C. Bond, of Wheeling, state chairman in charge of the study of child health services, sponsored by the American Academy of Pediatrics, has submitted a report concerning the study as of January 31, 1947.

In Series I, Schedule 1-D (Pediatric Hospitals), out of sixty-five hospitals contacted, 13.85 per cent of the schedules were returned. Schedule 1-E (Nervous and Mental Hospitals) showed a 100 per cent return of schedules, and similar 100 per cent returns were made by tuberculosis and orthopedic hospitals.

In Series II (Health Jurisdictions) 82.15 per cent of the schedules were returned, fifty-six jurisdictions having been contacted.

In Series III (physicians in private practice), out of 1,762 physicians contacted, there was a return of 89.56 per cent; 92 per cent of the 25 pediatricians in private practice contacted returned their schedules; and 77.15 per cent of the 617 dentists in private practice contacted returned their schedules.

Doctor Bond has reported that West Virginia is above the national average for schedules returned.

SOCIETY FOR STUDY OF STERILITY

The third annual convention of the American Society for the Study of Sterility will be held at the Hotel Strand, Atlantic City, June 7-8, preceding the annual convention of the American Medical Association. The general theme of the meeting will be that of attempting to disseminate to the physician treating marital infertility an overall picture of the latest advances in reproduction. Registration is open to members of the medical and allied professions. Dr. John O. Haman, 490 Post Street, San Francisco 2, California, is secretary of the society.

TENNIS AND GOLF TOURNAMENTS

Dr. Spencer L. Bivens, president of Kanawha Medical Society, has named Dr. Randolph L. Anderson as chairman of a committee in charge of a tennis tournament which will be held in connection with the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 12-14. Dr. V. L. Peterson has been named chairman of a committee which will arrange a golf tournament.

Tournaments will get under way Sunday afternoon, May 11, and members of the State Medical Association who desire to participate in either tournament are requested to send their names to the proper chairman just as soon as possible.

CLAYTON-SCOTT MARRIAGE

Miss Louise Clayton, niece of Mr. and Mrs. Frederick F. Clayton, of Baltimore, and Dr. Charles Neill Scott, of Martinsburg, were married at Trinity Methodist Church, in Baltimore, Saturday, February 8. Doctor Scott served in the medical corps of the Navy during World War II, and at the present time is on the staff at the Veterans Administration Hospital, at Martinsburg. He was formerly medical director for the Viscose Corporation, at Nitro.

NEW SUPERINTENDENT AT FAIRMONT

Dr. Philip Johnson, of Fairmont, has been appointed superintendent of Fairmont Emergency Hospital, at Fairmont, to succeed Dr. C. M. Ramage, who resigned effective January 1. The appointment was made by Governor Clarence W. Meadows.

Doctor Johnson served in the medical corps of the Army, with the rank of Major, during World War II, being assigned to a hospital in France for over a year. He was released from the service in October, 1945.

ALL EXHIBIT SPACE RESERVED

All space available for technical exhibits in connection with the 80th annual meeting of the West Virginia State Medical Association has been reserved. There will be a total of 37 exhibits. Space for scientific exhibits is now being allotted by Dr. Hu C. Myers, of Philippi, chairman of the committee on scientific exhibit, and those desiring to reserve space should communicate with him without delay.

LIBRARY OF THE
COLLEGE OF PHYSICIANS

CONFERENCE OF COUNTY SOCIETY OFFICERS

A national conference of county society officers has been authorized by the Board of Trustees of the American Medical Association and will be held in Atlantic City, Sunday, June 8, immediately preceding the American Medical Association convention. The Board's action follows the directive from the House of Delegates to study and report upon the advisability and value of such a conference.

The purpose of the conference is to bring attention to the problems of various localities and to promote exchange of information on voluntary health insurance plans, hospitalization plans and improvement in medical facilities, rural health activities and activities of the various bureaus and councils of the American Medical Association.

RELOCATIONS

Dr. J. L. Patterson, of Holden, has moved to Logan, and is located in offices formerly occupied by Dr. L. G. Combes. Doctor Combes has relocated at Holden, where he is engaged in industrial practice.

* * * *

Dr. Herbert N. Shanes, of Coalwood, has moved to Grafton, where he has opened offices for general practice at 216 McGraw Avenue.

* * * *

Dr. Arthur K. Lampton, of Gallagher, has assumed his duties as medical director of the Monsanto Chemical Company, in Nitro. He has moved his family to Charleston, and is residing at 5 Blair Court.

NO TIME FOR COMPLACENCY

The Year Nineteen Hundred and Forty Seven will bring about a change in the political leadership of our State and Nation. Viewed from a strictly political standpoint, this reflects, in one instance, a change in individual leadership, in the other a political party. In either case the seriousness of the problems of America's continued existence as a democracy are the same as prior to the changes in leadership, and calls for calm, cool, deliberate consideration.

Not all of the calm, cool and deliberate consideration must be in the halls of our State and National Capitols but must also be on the part of the American people. At the same time, complacency must not enter into our attitude toward our government. Never forget that the elected representatives of the people are dependent upon the citizens to assist them in the exercise of their voting privileges.

American medicine has never had a more golden opportunity to exercise leadership than during this period of transition. Leaders in medicine must look forward, not backward. They must realize that the public has a stake and interest in medicine's problems. Above all, the individual physician must realize that, largely through his scientific knowledge and his art in the practice of medicine, together with his acceptance of his civic responsibilities, the public will judge medicine's challenge to the future.

Let none of us be caught short.—L. L. Kuykendall, M. D., in J. Oklahoma State Medical Assn.

ANNUAL AUDIT

The annual audit of receipts and disbursements of the West Virginia State Medical Association for the calendar year 1946 has been completed by Norman S. Fitzhugh, Certified Public Accountant, and submitted to the treasurer, Dr. T. M. Barber, of Charleston. The complete audit follows:

Dr. T. M. Barber, Treasurer
West Virginia State Medical Association
Charleston, West Virginia

I have audited the receipts and disbursements of the West Virginia State Medical Association for the calendar year ended December 31, 1946, and am submitting herewith statements covering the various funds for the year under review.

All receipts of record and all disbursements were verified and the cash balance was reconciled with statements of the depository bank. Sufficient tests were made of available information to satisfy me that all receipts had been properly recorded. Cancelled checks evidencing all disbursements were on hand except for five checks dated in December 31, 1946.

I therefore certify that, in my opinion, all receipts in the year under review have been properly accounted for and all receipts and disbursements are correctly stated on the books and in the statements attached hereto. I further certify that the balance in bank at the close of business on December 31, 1946 amounted to $15,787.89.

A statement of cash follows:

Balance December 31, 1945	$13,508.44
Receipts—1946	31,345.26
	44,853.70
Disbursements—1946	29,065.81
Balance December 31, 1946	$15,787.89

The cash balance at December 31, 1946 is attributable to the various fund accounts as follows:

General Fund	$ 4,316.16
Medical Journal Fund	11,471.73
Total All Funds	$15,787.89

Transfer from the General Fund to the Convention Fund, in order to eliminate the deficit in that fund, was made as of December 31, 1946.

United States Treasury Registered 2% Bonds having a face value of $22,000.00 were inspected by me in your safety deposit box on January 16, 1947.

The Fidelity Investment Association annuity contract paid a 15% dividend in the year 1946 in the amount of $615.60. Remaining cost at January 1, 1946 amounted to only $55.80, so that a profit of $559.80 over the cost of this contract to the West Virginia State Medical Association has now been realized.

A comparative statement of assets at December 31, 1945 and December 31, 1946 is as follows:

	Dec. 31, 1945	Dec. 31, 1946	Increase (Decrease)
Cash in Bank	$13,508.44	$15,787.89	$ 2,279.45
2% U. S. Treasury Bonds Face Value $22,000.00	22,101.53	22,101.53	.....
Annuity Contract—Balance Cost Unrecovered	55.80	.....	(55.80)
Totals	$35,665.77	$37,889.42	$ 2,223.65

NORMAN S. FITZHUGH,
Certified Public Accountant.

Charleston, W. Va.
January 22, 1947.

THE WEST VIRGINIA STATE MEDICAL ASSOCIATION

Combined Statement of Receipts and Disbursements

Calendar Year 1946

BALANCE JANUARY 1, 1946		$13,508.44
RECEIPTS		
Dues (Net)	$14,030.00	
Interest on U. S. Bonds	440.00	
Sale of Addressograph, Graphotype and Table	75.00	
15% Dividend on Contract—Fidelity Investment Association	615.60	
Advertising	12,963.49	
Emblems Sold	668.70	
Subscriptions to Journal	66.50	
Commercial Exhibits	2,480.00	
Refund—Convention	5.97	
Total Receipts		31,345.26
		$44,853.70
DISBURSEMENTS		
General Fund	$14,491.26	
Medical Journal Fund	11,890.87	
Convention Fund	2,683.68	
Total Disbursements		29,065.81
BALANCE—DECEMBER 31, 1946		$15,787.89

Balance in Bank December 31, 1946—$15,787.89.

THE WEST VIRGINIA STATE MEDICAL ASSOCIATION

General Fund

Statement of Receipts and Disbursements

Calendar Year 1946

BALANCE JANUARY 1, 1946			$ 3,844.53
RECEIPTS			
Dues	$14,156.00		
Less: Refunds	126.00	$14,030.00	
Interest on U. S. Bonds		440.00	
Sale of Addressograph, Graphotype, Table		75.00	
15% Dividend on Contract—Fidelity Investment Association		615.60	
Total Receipts			15,160.60
			19,005.13
DISBURSEMENTS			
Salary—Executive Secretary (Less Payroll Taxes)		$ 5,531.20	
Office Salaries		2,699.45	
Office Supplies and Expense		421.82	
Office and Library Rent		900.00	
Telephone and Telegraph		380.37	
Postage		438.40	
Traveling Expense		1,241.86	
Miscellaneous Expense		1,246.52	
Social Security Taxes		124.20	
Veterans Program		273.24	
Withholding Tax		1,234.20	
Transfer—Convention Fund		197.71	
Total Disbursements			14,688.97
BALANCE DECEMBER 31, 1946			$ 4,316.16

THE WEST VIRGINIA STATE MEDICAL ASSOCIATION

Medical Journal Fund

Statement of Receipts and Disbursements

Calendar Year 1946

BALANCE JANUARY 1, 1946		$ 9,663.91
RECEIPTS		
Advertising	$12,963.49	
Emblems Sold	668.70	
Subscriptions to Journal	66.50	
Total Receipts		13,698.69
		$23,362.60
DISBURSEMENTS		
Printing	$ 8,428.20	
Engraving	196.15	
Postage	159.75	
Emblems and Frames Purchased	676.14	
Miscellaneous	683.33	
Salaries	1,747.30	
Total Disbursements		11,890.87
BALANCE DECEMBER 31, 1946		$11,471.73

THE WEST VIRGINIA STATE MEDICAL ASSOCIATION

Convention Fund

Statement of Receipts and Disbursements

Calendar Year 1946

BALANCE JANUARY 1, 1946		$ —0—
RECEIPTS		
Commercial Exhibits	$2,480.00	
Refund—Convention	5.97	
Transfer—From General Fund to eliminate deficit	197.71	
Total Receipts		2,683.68
DISBURSEMENTS		
Supplies and Labor	$ 730.84	
Travel	588.61	
Entertainment	714.96	
Reporting	380.95	
Miscellaneous Convention Expense	268.32	
Total Disbursements		2,683.68
BALANCE DECEMBER 31, 1946		$ —0—

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum. Pablum furnishes protective factors especially needed by the school-child —especially calcium, iron and the vitamin B complex. The ease with which Pablum (or Pabena) can be prepared enlists the mother's cooperation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature.

WEST VIRGINIA STATE MEDICAL ASSOCIATION

(Founded April 10, 1867)

OFFICERS

President: WADE H. ST. CLAIR, Bluefield
First Vice President: JAMES S. KLUMPP, Huntington
Second Vice President: B. L. PAGE, Buckhannon
Treasurer: T. MAXFIELD BARBER, Charleston
Executive Secretary: MR. CHARLES LIVELY, Charleston
A. M. A. Delegates:
IVAN FAWCETT, (1947), Wheeling
WALTER E. VEST (1948), Huntington
A. M. A. Alternates:
JAMES L. WADE (1947), Parkersburg
W. P. BLACK (1948), Charleston

COUNCIL

Chairman: ANDREW E. AMICK, Lewisburg
Member-at-Large: THOMAS L. HARRIS, Parkersburg
First District:
R. D. GILL (1947), Wheeling
JOHN P. HELMICK (1948), Fairmont
Second District:
CARL E. JOHNSON (1947), Morgantown
M. H. PORTERFIELD, (1948), Martinsburg
Third District:
E. A. TRINKLE (1947), Weston
J. E. WILSON (1948), Clarksburg
Fourth District:
WALTER C. SWANN (1947), Huntington
A. R. SIDELL (1948), Williamstown
Fifth District:
N. H. DYER (1947), Bartley
J. L. PATTERSON (1948) Logan
Sixth District:
W. P. BITTINGER (1947), Summerlee
THOMAS G. REED (1948), Charleston

STANDING COMMITTEES

Cancer

J. Ross Hunter, Charleston, Chairman; Russell B. Bailey, Wheeling; Chauncey B. Wright, Huntington; C. C. Fenton, Morgantown; Thomas Bess, Keyser; Paul R. Gerhardt, Charleston; H. H. Haynes, Clarksburg; M. W. Sinclair, Bluefield; and Thomas L. Harris, Parkersburg.

Child Welfare

Henrietta L. Marquis, Charleston, Chairman; Raymond Sloan, Huntington; Carl E. Johnson, Morgantown; Russell Bond, Wheeling; Harlow Connell, Bluefield; A. A. Shawkey, Charleston; and Theresa O. Snaith, Weston.

Revision of Constitution and By-Laws

J. Howard Anderson, Hemphill, Chairman, John P. Helmick, Fairmont; Spencer L. Bivens, Charleston; Hu Myers, Philippi; James Ralston, Clarksburg; Wm. R. Laird, Montgomery; and C. M. Scott, Bluefield.

D. P. A. Advisory

Hugh A. Bailey, Charleston, Chairman; Claude B. Smith, Charleston; and T. Kerr Laird, Montgomery.

Fact Finding and Planning

D. A. MacGregor, Wheeling, Chairman; Guy H. Michael, Parsons; Bert Bradford, Jr., Charleston; George W. Easley, Williamson; Ray M. Bobbitt, Huntington; Carl E. Johnson, Morgantown; James L. Wade, Parkersburg; George F. Evans, Clarksburg; and E. L. Gage, Bluefield

Industrial Health

J. J. Brandabur, Huntington, Chairman; J. L. Patterson, Holden; H M. Brown, Belle; W. F. Rogers, Parkersburg; W. V. Wilkerson, Prenter; W. P. Bittinger, Summerlee; George W. Easley, Williamson; J. B. Clinton, Fairmont; and George O. Nelson, Nitro.

Legislation

Frank V. Langfitt, Clarksburg, Chairman; Russell Kessel, Charleston; James S. Klumpp, Huntington; R. O. Rogers, Bluefield; W. P. Black, Charleston; Ward Wylie, Mullens; and A. U. Tieche, Beckley.

Maternal Welfare

W. E. Hoffman, Charleston, Chairman; M. B. Williams, Wheeling; E. F. Heiskell, Morgantown; J. E. Page, Clarksburg; E. J. Humphrey, Huntington; H. G. Steele, Bluefield; and Carl S. Bickel, Wheeling.

Medical Education

Ewen Taylor, Huntington, Chairman; E. J. Van Liere, Morgantown; P. A. Tuckwiller, Charleston; J. O. Rankin, Wheeling; and D. C. Ashton, Beckley.

Necrology

Harry G. Steele, Bluefiell, Chairman; Roy Ben Miller, Parkersburg; R. J. Reed, Wheeling; James McClung, Richwood; James R. Bloss, Huntington; and T. Jud McBee, Morgantown.

Publication

Walter E. Vest, Huntington, Chairman; Edward J. Van Liere, Morgantown; W. M Sheppe, Wheeling; G. G. Irwin, Charleston; and R. H. Edwards, Welch.

Publicity

R. K. Buford, Charleston, Chairman; W. C. Swann, Huntington; R. J. Reed, Jr., Wheeling; N. H. Dyer, Charleston; A R. Lutz, Parkersburg; and T. P. Mantz, Charleston.

Scientific Work

Frank J. Holroyd, Princeton, Chairman; Cecil O. Post, Clarksburg; and D. A. MacGregor, Wheeling.

Syphilis

Howard T. Phillips, Wheeling, Chairman; C. A. Hoffman, Huntington; C. G. Power, Martinsburg; J. E. Offner, Fairmont; H. M. Escue, Charleston; and R. C. Neale, Bluefield.

Conservation of Vision and Hearing

V. E. Holcombe, Charleston, Chairman; S. S. Hall, Clarksburg; A. C. Chandler, Charleston; F. O. Marple, Huntington; S. H. Burton, Weston; John H. Trotter, Morgantown; Ben Bird, Princeton; and E. C. Hartman, Parkersburg.

SPECIAL COMMITTEES

Diabetes

W. M. Sheppe, Wheeling, Chairman; Fred Whittlesey, Morgantown; Wm. A. Thornhill, Charleston; R. C. Neale, Bluefield; and L. R. Lambert, Fairmont.

Mental Hygiene

O. B. Biern, Huntington, Chairman; W. B. Rossman, Charleston; E F. Reaser, Huntington; J. L. Knapp, Weston; O. N. Morrison, Charleston; A. L. Wanner, Wheeling; Geo. D. Johnson, Huntington; C. T. Taylor, Huntington; N. H. Dyer, Charleston; and A. A. Wilson, Charleston.

Permanent Home

Wm. R. Laird, Montgomery, Chairman; A. U. Tieche, Beckley; T. W. Moore, Huntington; R. O. Rogers, Bluefield; John E. Cannaday, Charleston; Frank V. Langfitt, Clarksburg; and D. A. MacGregor, Wheeling.

Rural Health

Ira F. Hartman, Buckhannon, Chairman; E H Hunter, Webster Springs; O. V. Brooks, Moorefield; J. J Jenkins, Farmington; and W. E. Myles, White Sulphur Springs.

Tuberculosis

David Salkin, Hopemont, Chairman; E. T. Goff, Parkersburg; J. N. Reeves, Charleston; G. E. Gwinn, Beckley; and S. Elizabeth McFetridge, Shepherdstown.

Veterans Board of Review

Claude B. Smith, Charleston, Chairman; Paul R. Revercomb, Charleston; and James R Brown, Huntington.

SECTIONS

Eye, Ear, Nose and Throat

A. C. Chandler, Charleston, Chairman, and K. E. Gerchow, Morgantown, Secretary.

Industrial Health

J. J. Brandabur, Huntington, President; and J. L. Patterson, Holden, Secretary.

Internal Medicine

W. M. Sheppe, Wheeling, President; A. C. Woofter, Parkersburg, Vice President; and R. M. Wylie, Huntington, Secretary.

Pediatrics

Harry Baldock, Charleston, Chairman; and Jack Basman, Charleston, Secretary.

Surgery

Thomas Bess, Keyser, Chairman; and Raymond M. Cunningham, Bluefield, Secretary.

ASSOCIATIONS

W. Va. Heart Association

Oscar B. Biern, Huntington, President; Ralph J. Jones, Charleston, Vice President; and Ray H. Wharton, Parkersburg, Secretary-Treasurer.

W. Va. Ob. and Gyn. Society

E. J. Humphrey, Huntington, President; and Harry G. Steele, Bluefield, Secretary-Treasurer.

Association of Pathologists of W. Va.

Clement C. Fenton, Morgantown, President; and W. T. McClure, Wheeling, Secretary-Treasurer.

County Society News

CABELL

Dr. Dale C. Cameron, of Washington, Assistant Chief of the Mental Hygiene Division, U. S. Public Health Service, was the guest speaker at the regular monthly meeting of the Cabell County Medical Society, held at the Hotel Prichard in Huntington, February 13. His subject was, "Drug Addiction," the speaker discussing especially the "abstinence syndrome" and its treatment.

THOMAS L. GROVE, M. D.,
Secretary.

* * * *

FAYETTE

Dr. R. L. Anderson, of Charleston, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held February 4, at the Hotel Hill, in Oak Hill. His topic was, "Some Practical Pointers in the Diagnosis and Treatment of Low Back Pain." Besides using slides and x-ray film, the speaker provided patient-demonstration of technic used in the treatment of low back pain.

J. N. JARRETT, M. D.,
Secretary.

* * * *

KANAWHA

Dr. Norris W. Gillette, of Toledo, Ohio, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held Tuesday, February 11, at the Daniel Boone Hotel, in Charleston. His subject was, "Diagnosis of Goiter, With Remarks on Treatment." Discussion was led by Dr. R. K. Buford, of Charleston.

At the business meeting following the scientific program, it was decided to omit the May, 1947, meeting, inasmuch as it conflicts with the annual meeting of the West Virginia State Medical Association.

Dr. Henry M. Escue, chairman of the legislative committee, reported on legislation pending in the state legislature, and Dr. W. G. Putschar discussed the bill providing for autopsies to be ordered by prosecuting attorneys. He urged the members to seek support for the passage of this measure in the legislature.

The society went on record as sponsoring the first annual essay contest of the American Association of Physicians and Surgeons.

The following doctors were elected members of the Society: James F. Slaughter, Thompson Pearcy, and Richard J. Sexton, Charleston; Julius L. Berkley, Elkins, William R. Rice, Dunbar, and William J. Glass, Jr., Sissonville. Dr. Paul C. Johnson, Belle, was accepted as a member by transfer from the Monongalia County Society.

T. P. MANTZ, M. D.,
Secretary.

* * * *

LOGAN

Dr. E. H. Starcher, of Logan, was the principal speaker at the regular monthly meeting of the Logan County Medical Society, held at the Aracoma Hotel, February

12. He presented a graphic and most interesting paper on his experiences while a member of the Army Medical Corps in China during World War II.

Dr. Harold Van Hoose of Mallory, was elected a member of the House of Delegates to succeed Dr. W. P. Hamilton who recently located for the practice of his profession at Greenwich, Ohio.

I. M. KRUGER, M. D.,
Secretary.

* * * *

MERCER

The regular monthly meeting of the Mercer County Medical Society was held at the West Virginian Hotel, in Bluefield, January 17, with Dr. Joseph P. Evans, professor of neurosurgery of the University of Cincinnati, as the guest speaker. He discussed "Head Injuries." The paper was illustrated by lantern slides, and was discussed by Drs. E. L. Gage, R. O. Rogers, C. N. Scott, and W. H. St. Clair.

At the business meeting following the scientific program, Dr. John C. Gordon, of Bluefield, was elected to membership in the Society.

FRANK J. HOLROYD, M. D.,
Secretary.

* * * *

MONONGALIA

Dr. Joseph L. Knapp, superintendent of Weston State Hospital, was the guest speaker at the January meeting of the Monongalia County Medical Society. His subject was, "Neuropsychiatric Aspects of Gastro-Intestinal Diseases."

Dr. Harry M. Margolis, of Pittsburgh, was the guest speaker at the February meeting. He presented a paper on the subject of "Modern Concepts in the Clinical Management of Chronic Arthritis."

CLARK K. SLEETH, M. D.,
Secretary.

* * * *

OHIO

At the regular monthly meeting of the Ohio County Medical Society, held at the Nurses' Home in the Ohio Valley General Hospital, Wheeling, February 7, Dr. Carl S. Bickel, of Wheeling, was the guest speaker for the Jacob Schwinn Study Club. His subject was "Hemorrhage of Late Pregnancy." The paper was discussed by Drs. M. L. Williams, Russell B. Bailey, and Robert J. Armbrecht.

C. B. BUFFINGTON, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

Dr. S. S. Hall, of Clarksburg, was the guest speaker at the regular monthly meeting of the Potomac Valley Medical Society, held at Burlington, February 5. His subject was "Diagnosis and Treatment of Sinus Diseases." The meeting was attended by sixteen members.

E. A. COURRIER, M. D.,
Secretary.

RAPID SHALLOW BREATHING → ANOXEMIA AND CYANOSIS → PROGRESSING CARDIAC FAILURE → CIRCULATORY INADEQUACY →

Metrazol Council Accepted

By injection - 1 or 2 cc.
orally - 1 to 3 tabs.

In Pneumonia

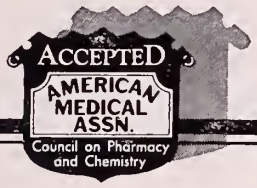
The Disease is in the Chest - but the Danger is in the Respiration and Circulation

Metrazol
(brand of pentamethylentetrazol)

Stimulates the Respiratory and Vasomotor Centers depressed by toxins or drugs—used as a supportive measure with sera, sulfa drugs, antibiotics or oxygen

BILHUBER-KNOLL CORP. ORANGE, N. J.

Accepted



THE following VALE products are accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

TABLETS THIAMINE HYDROCHLORIDE
1 mg., 3 mg., 5 mg., and 10 mg.

TABLETS SULFATHIAZOLE 0.5 Gm.

TABLETS SULFADIAZINE 0.5 Gm.

TABLETS PHENOBARBITAL
16 mg. (1/4 gr.), 32 mg. (1/2 gr.), and 0.1 Gm. (1 1/2 gr.)

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TABLETS AMINOPHYLLINE:
0.1 Gm. (1 1/2 gr.)
0.1 Gm. (1 1/2 gr.) Enteric Coated Yellow
0.2 Gm. (3 gr.) Enteric Coated Purple

TABLETS DIETHYLSTILBESTROL
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Obituaries

KYLE McCUE JARRELL, M. D.

Dr. Kyle M. Jarrell, 65, of Beckley, died at his home in that city, January 24, 1947. Death was due to a cerebal hemorrhage.

After attending Beckley Seminary in 1900-01, Doctor Jarrell enrolled at the University of Maryland Medical School, from which he received his M. D. degree in 1906. He did postgraduate work at Harvard Medical School in 1914 and at the University of Maryland, Baltimore, in 1920. His specialty was pediatrics and internal medicine.

Doctor Jarrell had practiced medicine in Beckley for over thirty years, serving one term as president and six terms as secretary of the Raleigh County Medical Society. He was also a member of the West Virginia State Medical Association and the American Medical Association. He was interested in politics and served as chairman of the Raleigh County Democratic Executive Committee from 1928 to 1943. He had also served one term as deputy sheriff of Raleigh County. At the time of his death, he was vice president of the Beckley National Bank. He had held this position since its founding in 1914.

Doctor Jarrell was appointed superintendent of the Rutherford Sanitarium in 1933 and was serving as superintendent when the institution's name was changed to Pinecrest Sanitarium. He held that position for ten years, resigning in 1943 to resume private practice in Beckley.

Besides his widow, he is survived by two sons, Arthur P. Jarrell and Kyle M. Jarrell, Jr., both of Beckley, and a daughter, Mrs. Harold H. Smith, of Staunton, Virginia.

* * * *

LUCIAN N. YOST, M. D.

Lucian N. Yost, 75, of Fairmont, died at a hospital in that city, February 4, following a paralytic stroke. Doctor Yost was born near Fairmont in November 1871, son of the late Dr. Fielding H. and Malinda (Jones) Yost. He received his early education in the public schools and reecived his M. D. degree in 1895 at the Eclectic Medical College, Cincinnati, Ohio. Previously, he had studied at West Virginia University, and was graduated from Ohio Northern University, Ada, Ohio.

After his graduation from medical college, Doctor Yost opened offices in Fairmont where he continued in practice until his death. He served for several years as health officer for Marion County.

Doctor Yost was the last survivor of his parents' family, who were early settlers in the Fairview community. A brother, Dr. D. L. L. Yost, died in January, 1946. His wife, Inez Manley Amos Yost, died in May, 1946.

He is survived by a son, Rufus L. Yost, of Pruntytown, and a daughter, Mrs. Brown Miller, of Front Royal, Virginia.

Woman's Auxiliary

MARION

A dinner meeting of the Auxiliary to the Marion County Medical Society was held at the Fairmont Hotel, in Fairmont, January 28.

Dr. R. B. Porter, director of counselling service at Fairmont State College, was the guest speaker. His subject was, "The Personality of the Juvenile Delinquent."

At the business meeting preceding the scientific program, the Auxiliary voted to support the proposed statewide essay contest, and the chairman appointed Mrs. David Bressler, Mrs. W. W. Orr, and Mrs. S. W. Parks as members of a financial committee to cooperate with a similar committee from the Woman's Auxiliary to the West Virginia State Medical Association. An interesting report of the National Board Meeting, held in Chicago, in December, 1946, was submitted by Mrs. John P. Helmick, fourth vice president of the national auxiliary.

MRS. S. W. PARKS,
Secretary.

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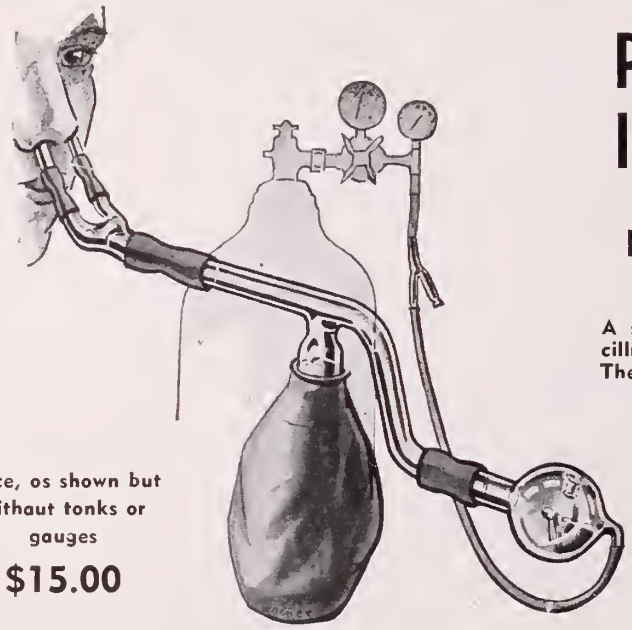

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Book Reviews

RHEUMATIC FEVER—Childhood's Greatest Enemy. By Herbert Yahraes. Pamphlet No. 126 in the series of popular, factual ten-cent pamphlets issued by the non-profit, educational organization, The Public Affairs Committee, Inc., 22 E. 38th St., New York 16, N. Y.

This booklet is one of the most comprehensive and readable pamphlets yet written on the disease that cripples and destroys more children of school age than any other disease, and that affects more than a million persons, young and old, in the United States.

"This booklet," according to Dr. David D. Rutstein, Medical Director of the American Heart Association, "represents a major step forward in bringing the essential facts concerning rheumatic fever before the American public. Rheumatic fever and rheumatic heart disease constitute one of our country's most pressing public health problems. Science is making progress in combating this disease which takes so many young lives and which attacked more than 40,000 members of the armed forces during World War II. It is the responsibility of every citizen to know the facts about rheumatic fever and to understand the tremendous need for community rheumatic fever programs in order to bring available knowledge within the reach of all sufferers from the disease."

The 32-page, illustrated Public Affairs Pamphlet contains all "the essential facts concerning rheumatic fever" and points to the need for community action on a broad scale. It was prepared by the Public Affairs Committee in cooperation with the American Council on Rheumatic Fever of the American Heart Association in order to provide needed public information on the disease as background for National Heart Week.

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The United States Junior Chamber of Commerce, the American Legion, Rotary International, Kiwanis International, and other organizations are cooperating in the national effort to stimulate public interest in the problems of heart disease, the greatest cause of death in the United States.

"Diagnosis of rheumatic fever is so difficult and treatment so complex and expensive," the pamphlet declares, "that medical men who have studied the disease most carefully say it can be fought successfully only by a public health program like the one that has been waged successfully against tuberculosis."

"Many different services are needed by the average rheumatic fever family," Mr. Yahraes points out, "and ideally they should be available in every community. They would be brought together by some central agency, perhaps the Department of Health, which would keep a register of cases as they were reported by private and school doctors and by welfare workers, and also a record of all the community facilities that might be of assistance."

"Within the last decade," according to the pamphlet, "considerable progress has been made in working out cooperation between the federal and state governments for financing public programs for the care of RF children. Federal money for that purpose was first set aside in 1939, when Congress authorized the Children's Bureau to include rheumatic children in the crippled children's program. This is financed by the national government under the special grant-in-aid provisions of the Social Security Act."

"The first joint federal-state program—Oklahoma's—was approved by the Children's Bureau in 1940. By 1947 there were twenty such programs, and a dozen others were being planned."

The London County Council's Rheumatism Scheme, which got under way in 1926, is described in the pamphlet as an example of a successful community plan. As a result of this cooperative effort in England by school and health authorities, by private and by public institutions, the incidence of acquired heart disease among London school children dropped from 2 per cent to 0.8 per cent in ten years, and there was a considerable decrease in the number of chronic cardiac invalids. In carrying out this scheme, London provided one hospital bed for every 550 school children.

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THE MANAGEMENT OF TUBERCULOSIS IN GENERAL HOSPITALS—(A MANUAL). Council on Professional Practice, American Hospital Association, 1946. Paper bound, 50 cents; cloth, $1.00 American Hospital Association, 18 E. Division St., Chicago 10, Ill.

The Management of Tuberculosis in General Hospitals is a revision of a manual on the same subject originally published in 1939, and authored by Dr. William H. Oatway, Jr.

Two approaches justifying and pointing out the need for a tuberculosis control program in general hospitals appear evident. The first is to enable the hospitals to participate more completely and effectively as a community health service, and the second is to provide hospital staffs and employees with greater protection.

It is pointed out that there are approximately 16 million hospital admissions a year in this country exclusive of persons served in out-patient departments. As it has been determined that general hospital patients show residual signs of inactive tuberculous lung infection in 10-20 per cent of X-rays taken and significant tuberculous disease (reinfection type) in 1.5 to 4.3 per cent, efficient methods of diagnosis, employee and staff protection, and education should be applied to both hospital personnel and patients.

The important fact is emphasized that many non-tuberculous lesions and abnormalities of the heart and other chest structures are discovered in about 10 to 20 per cent of persons thus studied.

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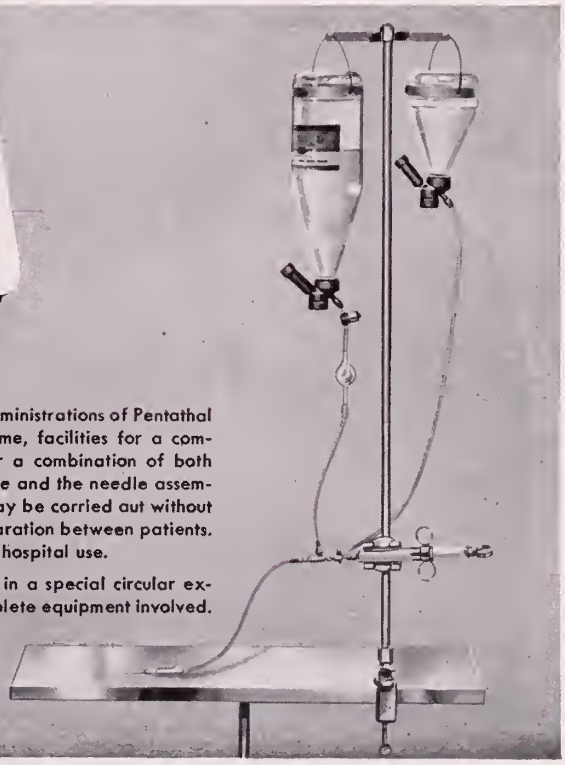

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Recommended time schedules for X-ray study of employees, student groups and others is outlined and comments are made on various methods of case-finding, other supplementary and obsolete methods, and the application of them to various hospital groups. It is pointed out that non-professional employees have a fairly standard and predictable amount of infection and disease, very close to that of the regional population with allowances for contact with patients; that student nurses start with a low group incidence and disease and develop an increase of both with clinical contact; and that graduate nurses have an infection incidence of 70-100 per cent and a disease rate of 2 to 8.8 per cent, varying in hospitals and areas, but higher than the regional population.

Medical students are in the same category as student nurses and interns. Residents and junior staff members are comparable to graduate nurses. Senior staff members have a high incidence rate but only an average disease rate.

The percentages quoted in the manual are illustrative rather than detailed, according to the author, and are taken from representative reports.

A chapter is included on the theory and application of infectious disease precautions. The author points out that there are great gaps between theory and the application of precautionary methods. In this chapter an attempt is made to present details and reasons. Included are discussions on tuberculosis infection and disease, general principles of isolation technique, the administration of a routine, the placement of patients, a discussion of precautionary methods, and comments on these methods.

For a lay reviewer to comment on this chapter, beyond stating its content and the fact that it should be of considerable value to hospital medical directors—and particularly to nursing instructors—would be most presumptuous.

The fourth chapter is entirely devoted to developing a comprehensive outline of procedure which makes the findings and recommendations of the previous chapters a practical possibility. It is an inclusive outline for a tuberculosis control program in a general hospital and covers such phases as administration, case-finding methods, admission and placement of patients, isolation techniques, personnel case-finding, education and other functions. The last chapter is a brief outline of the previous one, having been reduced to its fundamentals, and it is recommended for quick review only.

There are a great many reasons presented by the author for hospitalization of tuberculous patients in general hospitals. Some of the more specific appear to be the need for treatment of non-tuberculous illness, the need for treatment of tuberculosis by surgery, the need for emergency care due to acute effusions, collapse of lung, hempotysis, etc., and the need of care while awaiting sanatorium admission. Some general reasons given are that care of the tuberculous will improve the educational opportunities of medical and

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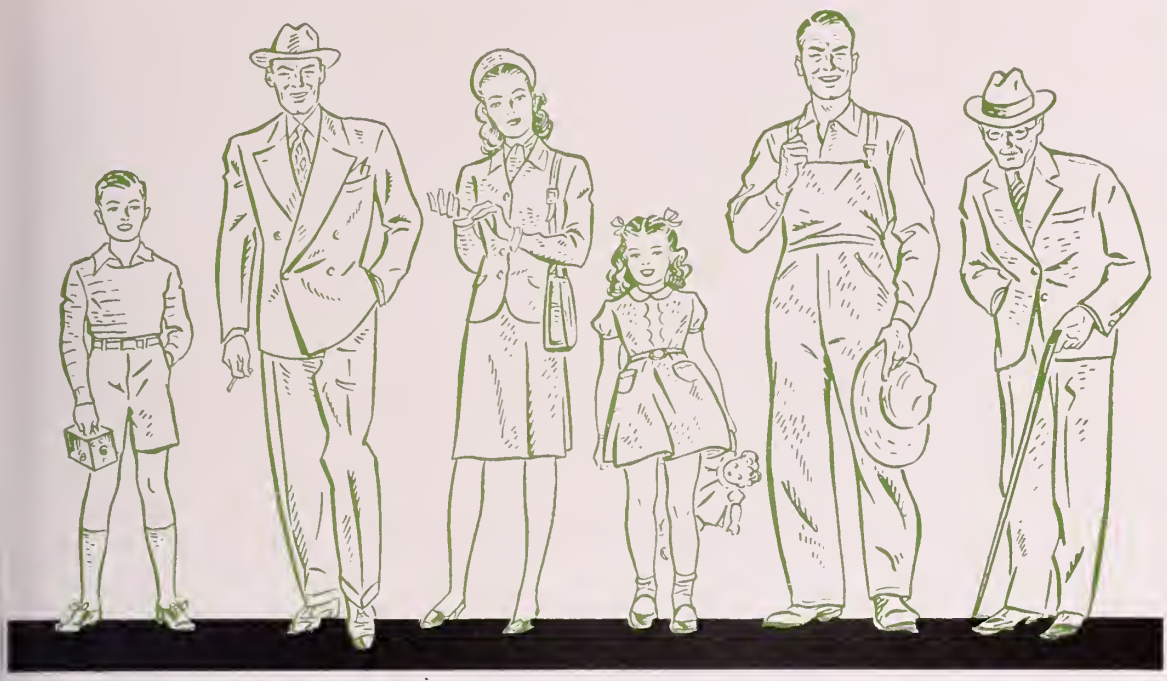

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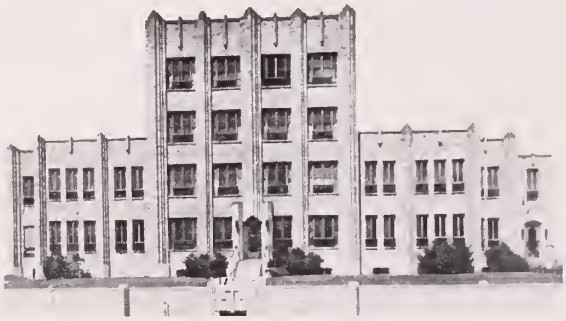

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nursing personnel, the public health will be improved, and the admission of tuberculous patients is necessary to a well-rounded control program.

The preface of the manual states that "the problem is large, its solution is incomplete and somewhat controversial." The outline portrays modern attitudes and procedures which are practical, and where controversy has been manifested or there has been a lack of knowledge, this has been noted, and "the most logical and safe solution has been suggested."

In view of the recent literature on the subject and the combined effort of the American Hospital Association, the U. S. Public Health Service and the National Tuberculosis Association to further extend and develop case-finding programs in general hospitals, plus the demonstarted value of such a control program, hospital administrators, medical directors and superintendents of nursing should find this manual most valuable and useful.—E. B. Wells.

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When it is not convenient for a child who suffers from an itching nose to use his hand to relieve the symptom, he attempts to overcome his discomfort by wrinkling his nose or twisting his mouth.

As suggested by Hansel, an accurate diagnosis of nasal allergy can be made on the clinical history, the nasal changes, the roentgenography of the sinuses, the bacteriology, the cytology of the nasal secretions and the histopathology of the nasal and paranasal sinuses. There is one procedure which every physician can do irrespective of his specialty, namely, a study of the cytology of the nasal secretions, with particular reference to eosinophiles. Often an infant or a small child who is thought to have frequent colds will be recognized as being allergic by this "nasal smear test."—Ralph Bowen, M. D., in The Mississippi Doctor.

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Those with a prediction addiction did not have to score as high a percentage of correct guesses as professionals like you to think they do, to forecast that the contents of repositories used to store the blood of a patriotic populace would be very much depleted after the cessation of the shooting hostilities. No one ever thought that they would be inventoried in tons as it appears they recently were in a Chinese warehouse.

Apparently no such unit of measurement of blood and its fractions are used in any of the blood banks over the country now, as a recent special article in Science News Letter concerning "bankruptcy for blood banks" reveals that "the deposits in the blood banks in most hospitals and community health centers are dangerously low." In fact it tells of a recent visit to the community blood bank of the Nation's Capital where it was noted that "a single solitary bottle of whole blood" was the only deposit in the refrigerator.

Obviously there will be fewer voluntary donors and blood banks will have to be supplied by professional donors. The price of food to donors which makes the blood worth selling is high, so those who can afford to pay are being charged from 25 to 50 dollars a pint plus laboratory and transfusion set fees. But the rule of Sherwood Forest, "to rob the rich to give to the poor" must prevail until we are reconverted. Meanwhile there may be some pathetic tragedies which will penetrate a thinning callousness which made it possible to receive the impact of so many during the war. It is and will be more difficult, but a way will be found.—International Medical Journal.

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SPREAD OF TUBERCULOSIS IN FAMILIES OF TUBERCULOUS PATIENTS

A tabulation of the family records of patients with active tuberculosis under the supervision of the Los Angeles County Health Department has uncovered some surprising facts regarding the susceptibility of the members of certain families to the spread of this disease.

The figures show that nearly all of the new cases originate in a comparatively small proportion of the families exposed. These susceptible families deserve earnest study. Preventive measures within them can be successful only as they are directed toward the major elements of spread. What these elements are is still unknown. A family is a complex unit, exhibiting characteristics, traits, and habits that have been in operation for generations. Even though the faults of these families may not be easily corrected, if they can be defined so as to be recognized, they can be made the object of intensive health supervision. If tuberculosis is to be prevented among them, these families must have larger proportions of the tuberculosis prevention budget than is ordinarily allotted to them.

It is characteristic of tuberculosis in Southern California that it is concentrated in a few comparatively congested areas, inhabited chiefly by families in the low income brackets. Here many conditions favor the spread of disease. In planning surveys and applying special preventive measures, tuberculosis attack rates must be given careful consideration. Local surveys in Los Angeles with a house-to-house canvass in poor neighborhoods have detected five times as much active pulmonary tuberculosis as has been found by the same amount of effort expended in other types of surveys. More information about the reasons for spread in the homes where tuberculosis thrives is urgently needed. In these homes, the wage-earner, all other adults and the older children must be examined.

Crowded living quarters constitute a major fault. In spite of improvement, economic conditions must still be considered a factor. Although thousands of these families have moved to modern housing projects and many have been earning big wages, too often they have reverted to old living habits within the new dwellings. These habits have been gradually molded into characteristics that will require long and painstaking efforts to change.

In 1940, the Los Angeles County Health Department analyzed the family records of all the cases of active reinfection type tuberculosis. All cases found in the family within six months of the time that the first case in the family was diagnosed in the clinic were regarded as original cases. Only those detected thereafter were considered new cases whose infection was presumably

*Issued monthly by the National Tuberculosis Association and furnished through the courtesy of The West Virginia Tuberculosis and Health Association.

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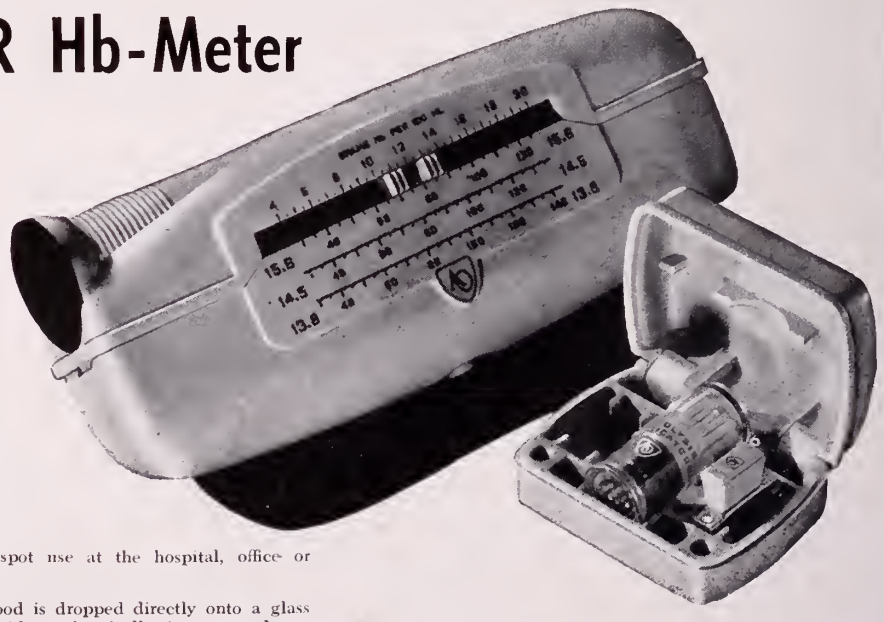

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due to exposure during the period of observation. Contacts with no active tuberculosis were not included in the tabulations unless they had been under observation six months or longer.

There were 506 families with 595 original cases and 1,637 other persons exposed. There were 135 new active cases developing among these exposed persons, or 8.25 per cent. Of these, four were active non-pulmonary, 45 were active primary and 86 active reinfection type pulmonary tuberculosis. In other words, slightly more than five per cent of the 1,637 contacts developed active reinfection type pulmonary tuberculosis six months or more after discovery of the first known case in each of the respective families.

This data covers experience during the latter half of the 1931-1940 decade, during the worst years of the depression. Now, four years later, the present active cases have been analyzed, eliminating the families previously tabulated. Unquestionably, there was improvement in the economic status of these families. There was less cause for congestion within the home, and with better living conditions and improved nutrition there should have been less likelihood of the spread of infection. The average number of months of exposure of contacts was also less, because of improvement and extension of the isolation technique. In spite of all this the results show that the justifiable prediction of a lower attack rate would be in error. In 431 families with 1,264 contacts, 60 cases of active reinfection type pulmonary tuberculosis developed among the contacts, or an attack rate of 4.75 per cent. This is very little lower than the rate found in the previous survey.

The hazard in these families with this high attack rate is apparently not only due to the direct spread of the infection, but to other conditions favoring the spread. There must be some inherent fault either in their physical or their mental make-up which makes the members of these families more susceptible than the average person; or there may be contributory domestic habits unchanged by the usual public health education and supervision.

Conditions in other families in similar communities were found to be quite different. The x-ray surveys previously mentioned were carried on in the most congested parts of these same areas, and 22,000 persons examined showed an attack rate of 0.5 per cent. The greater tendency to spread in certain families, in comparison with other families, is demonstrated by the fact that in families having more than one case, even where no positive sputum can be found, there is a high attack rate.

With this high attack rate in certain families, it would seem justifiable to isolate outside of the home every active case occurring in a family with a history of considerable tuberculosis. The effectiveness of such a ruling was shown in a small neighborhood where nine deaths occurred in eighteen months. An arbitrary edict was issued that no active case would be permitted to remain at home in that neighborhood. This stopped the spread and there have been no new cases. In another district, where there were a number of ex-sanatorium, chronic, advanced, communicable cases it was found possible to isolate within the homes with extra assistance. This procedure was found to be effective in stopping the spread of infection. In this type of family isolation is essential.

Spread of Tuberculosis in Families of Tuberculous Patients, P. K. Telford, M.D. and Ruth Garten-White, M.D., American Review of Tuberculosis, March, 1946.

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RENAL NEOPLASMS*

(A REVIEW OF FORTY-EIGHT CASES)

By RAY M. BOBBITT, M. D., and IVAN R. HARWOOD, M. D., Huntington, West Va.

The object of this paper is to review a series of renal tumors, particularly from the standpoint of symptomatology, pathology, diagnosis, treatment, and prognosis. In an effort to stress the more practical aspects rather than the incidence or etiological factors it is necessary to consider briefly the present classification and pathology.

Classification and pathology of these tumors have been the seat of great controversy, and we feel that classification should be as simple as possible. In arriving at the following conclusion we reviewed the work of Lad l,[1] Mixter,[2] and Moore.[3]

Classification and pathology. — Many varieties of tumor occur in the kidney. The benign tumors rarely are of surgical importance. They are not uncommon as incidental findings at autopsy, but usually they are small and do not produce clinical symptoms.

The malignant tumors of the kidney are classified in two groups: (1) tumors arising in the renal parenchyma (sarcoma, renal carcinoma, embryonal nephroma), and (2) those arising in the kidney pelvis.

Of the primary malignant tumors the sarcoma is so rare as to be a pathological curiosity and will not be considered here.

The most common of the malignant tumors is the carcinoma of the kidney. It is a disease occurring in adults over 30 years of age and afflicts more men than women, the ratio being about 2:1.

For over sixty years the histogenetic origin of the renal carcinoma has been hotly disputed. Grawitz, who first described this type of tumor, called it 'hypernephroma' because he believed it originated in the suprarenal gland. Today most pathologists and urologists favor the theory that the carcinoma arises from renal tissue, but some observers believe that several different neoplasms have been lumped together under one term. They describe subgroups of this tumor, claiming different origins and characteristics for each. Besides the term 'hypernephroma', therefore, we find various names, based on histological details such as hypernephroid tumor, clear cell carcinoma, papillary adenocarcinoma, renal cell carcinoma, et cetera.

The question of subclassification is academic and for all practical purposes these tumors can be considered as one pathological entity. Representatives of this type of tumor have a characteristic gross appearance and run esentially the same course. Despite all controversy the term 'hypernephroma' is the one most commonly used. However, in this presentation we shall call this tumor 'carcinoma of the kidney', a term which has the advantage of being generally accepted.

Carcinoma of the kidney is located usually in one pole of the kidney and generally is of ovoid shape. It grows rather slowly and may become so large as to increase the weight of the kidney by several pounds. The color of the tumor tissue is a brilliant golden yellow due to the presence of lipoid material within the cells. On cut surface, however, it often presents a colorful picture due

*Presented before the 79th Annual Meeting of the West Virginia State Medical Association at Huntington, May 13, 1946.

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to degenerative changes such as hemorrhage, necrosis, cyst formation and fibrosis.

The tumor may invade the renal capsule, the renal pelvis, or the renal vein. The latter mode of extension accounts for the fact that the renal carcinoma metastasizes usually by way of the blood vessels in contrast to other carcinomata, which usually invade the lymphatics. Thus, the common sites for metastases of carcinoma of the kidney are the lungs and the bones.

The pathological criteria on which prognosis is based are, in order of importance, invasion of the renal vein, presence of metastases elsewhere, invasion of the kidney capsule, and size of the tumor.

Statistics[4] reveal that without invasion of the renal vein one-half of the postoperative cases considered will be five year cures. Of the cases with invasion of the renal vein one-third will show five year survival if the tumor is small. If the tumor is large (weighing more than two pounds), only one-fifth of the cases with invasion of the renal vein will survive five years. If the renal capsule is destroyed by the tumor, local recurrences may be expected.

If the tumor is small, and the renal vein not massively involved, a solitary metastasis may be removed with subsequent cure.

The embryonal nephroma, or Wilms' tumor, occurs chiefly in children. It originates from vestigial embryonic structures of the kidney. The tumor, like a teratoma, is composed of different types of immature tissue such as glands, muscle, cartilage and bone. Because of the histological picture it often is called adenomysarcoma. In contrast to the golden yellow carcinoma of the kidney the Wilms' tumor is gray, resembling fish flesh. It may also exhibit degenerative changes. It is a rapidly growing tumor which may reach enormous size. Metastases occur through the lymphatics and blood vessels and are found chiefly in the liver and lungs. The prognosis is very poor. One-fifth of the operative cases survive three years.[1, 2]

The papillary tumors of the kidney occur at any age. They are more common in men than in women, the ratio being 3:1. They arise in the lining epithelium of the pelvis and form projecting villous masses which are sometimes pedunculated. The more malignant forms invade the underlying kidney tissue through the stalk of the tumor.

The prognosis can be determined only partly by histological grading. Papillary pelvic tumors which show histologically benign features are potentially malignant as they commonly recur if only locally removed. Sometimes they appear in another portion of the urinary tract. It is uncertain whether such recurrence in a different place represents an implantation metastasis or an independent primary tumor. Nephrectomy, including the ureter, gives five year survival in three-fourths of the cases.[3]

The squamous cell carcinoma of the kidney pelvis is a disease occurring in adults over 30 years old. It is one of the rarest of malignant tumors of the kidney and occurs twice as often in men as in women. Squamous epithelium is not present in the normal kidney. The normal transitional epithelium may, due to irritation, be transformed into squamous epithelium from which squamous cell cancer later arises. This tumor often is associated with inflammatory or calculous diseases. Grossly the tumor is solid and grayish-white with yellow areas. It rapidly destroys the renal parenchyma by invasion and metastasizes early, usually by way of the lymphatics. The prognosis is poor and postoperative five year survival is rare.[5]

In our series of 48 cases reviewed, there were 3 cases of squamous cell carcinoma of the kidney pelvis, 3 of Wilms' tumor, 4 of papillary carcinoma of the kidney pelvis and 38 cases classified as carcinoma of the kidney.

Symptomatology. — The symptoms of kidney tumors are few and, unfortunately, often appear late. Hematuria is the most common symptom and occurred in about 94 per cent of our cases. Bleeding usually occurs late in the course of the disease and for this reason immediate investigation should be made in all cases of hematuria if we expect to make the diagnosis early enough to help the patient. Every case of hematuria should be considered as of serious origin until proved otherwise and the patient should never be treated by watchful waiting or by pills. The bleeding usually is intermittent, and often the patient and the doctor are lulled into a sense of false security in the belief that medication or rest apparently has stopped the bleeding. Any physician who does not advise a patient with blood in the urine to have an immediate complete urological study is neglecting his duty and is, too often, responsible for the patient losing his chance to get well. Other common symptoms are the presence of a tumor mass, pain, loss of weight, anemia, early fatigue and low grade fever, the mechanism of which is unexplained.

Pain is not common and usually occurs only if blood clots block ureteral drainage. Dull aching

pain in the flank of the affected side is not uncommon. The majority of patients run a low grade fever. In patients with this symptom, particularly if accompanied by loss of weight which cannot be explained otherwise, an urological investigation should be made. We saw three such cases in our series. Since a tumor mass could be found in only 20 per cent of our cases one must not rely on this symptom alone.

The accurate diagnosis of kidney tumor can be made only by cystoscopic and pyelographic examinations. In any suspected case, the urethra and bladder must be studied, the ureteral orifices catheterized, specimens obtained from both kidneys, and functional tests made. Scout x-ray and pyelograms should be made to complete the study. While a retarded or lowered kidney function with bloody urine may be suggestive, the final diagnosis usually is made on the results of the pyelogram. Intravenous urograms often are helpful but are not dependable for final opinion, and an attempt to rule out or diagnose a renal neoplasm from intravenous urograms alone would, in our opinion, be poor practice. Braasch,[1] in a large series of cases at the Mayo Clinic, found definite x-ray evidence in 77 per cent of operative cases. This evidence consists of a mass on the scout film, alternations of outline of the kidney pelvis and calyces resulting in retraction, elongation, compression or obliteration, filling defects in pelvis and calyces, deformities at the ureteropelvic junction, and abnormal position of the pelvis and ureter. The changes are due to a combination of pressure, traction, ulceration and necrosis. In every case studies of both kidneys should be made as pathologic change of a different nature or early metastasis to the other kidney may be present. Instances of the latter condition have been reported in the literature. In all cases careful search for metastasis should be made before any method of treatment is decided upon.

The treatment of patients with renal tumors may be nephrectomy or x-ray, or both. With the exception of Wilms' tumor, we agree with Priestly[1] that renal tumors with no demonstrable metastasis should have primary nephrectomy without preoperative irradiation. He bases his conclusion on the fact that viable tumor tissue is found at the time the kidney is removed despite previous x-ray therapy, meanwhile valuable time is being lost and possible metastasis occurring. When metastasis is minimal, the patient having pain and bleeding, nephrectomy still is indicated and often adds one to three years to his life. Most operators agree that in cases of very large tumors the transperitoneal approach is advisable. Certainly it is true that as little trauma as possible should be inflicted in removing these growths since vessel invasion may have already occurred, and tumor cells could be carried directly into the blood stream. The ureter should be removed in papillary growths of the kidney pelvis. Since Wilms' tumor responds readily to preoperative as well as postoperative x-ray therapy, we believe that preoperative x-ray therapy should be given. Such treatment reduces the size of the tumor, makes the operation less dangerous and probably does not add much risk of metastasis. We advise postoperative x-ray therapy in all cases in which invasion of the renal vein, or other metastasis has occurred. In hopeless cases in which operation is not advisable x-ray may be used for palliation and relief of pain. We are convinced that x-ray therapy has a definite role in the treatment of most of these tumors.

In clear cell carcinoma, metastases usually occur to the lungs or to bones, but may involve the brain, or the viscera by direct extension, and we have one case with solitary metastasis to the thyroid gland. Wilms' tumor metastasizes in much the same manner, usually to the lungs. Tumors of the kidney pelvis usually spread by direct extension either through the lymphatics or the blood stream. In cases in which there is rapid loss of weight and strength, with a high sedimentation rate and anemia, one should be suspicious of metastasis even if routine study does not demonstrate it. In our series of cases there was demonstrable metastasis in only six when first seen, but later observation assures us that this complication already had occurred in several more.

The prognosis of renal tumors depends on the invasion of the capsule, invasion of the renal vein or vena cava, the size of the growth, and the presence of metastasis elsewhere. Of the 48 cases forming the basis of this review one out of three patients with Wilms' tumor is alive after five years. All three patients with squamous cell carcinoma of the kidney pelvis died within a year. Of four patients with papillary carcinoma of the kidney pelvis, two are alive after five years and one is doing well after six months.

Six patients in the carcinoma group could not be followed after the first year but apparently they were doing well when last seen. Two patients are alive and well after ten years and one after nine. There are four patients alive after five years. The remainder of the patients in this group are under the five year limit.

Of the carcinoma group our follow-up information is poor. Of fourteen cases occurring more than five years ago, two are alive after ten years, one after nine, three after five and the remainder are dead or lost. Of twenty-six cases, eight occurred in three years, three are dead due to metastasis, and in one other metastasis is present. Of the other eighteen, seven are alive and doing well. We feel that among patients in whom there is no metastasis or vessel invasion, 50 per cent will survive a five year period. We have had no deaths directly due to surgery, although two of the patients died before leaving the hospital, one after seven weeks, involvement of the vena cava being found, and one after four weeks due to undiagnosed metastasis.

In conclusion we wish to call attention again to the value of early diagnosis. Hematuria often occurs too late for any treatment to effect a cure but if a patient is allowed to bleed intermittently for a period of time, the outlook usually is hopeless.

Note: We are deeply indebted to Dr. Siegfried Werthammer, our pathologist, for his excellent help in the preparation of this paper.

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BIOPHYSICS

It now seems that, just as physiology budded off from anatomy and then itself threw off, as an offshoot, the subject of biochemistry, so now it is preparing to develop another new branch called biophysics. Moreover, the fear has been expressed that, what with the handing over to specialists, each "maintaining with no little heat his various opinions," of such branches as histology, biochemistry, general physiology, clinical science, nutrition, experimental pathology, pharmacology, endocrinology, and so forth, any further branching will imperil the parent trunk. My view is that this fear represents a parochial view and that the ultimate parent trunk is knowledge.

Perhaps some hard pruning of old wood might encourage still more vigorous new growth, especially if combined with judicious "disbudding." Though biophysics is now an active growing-point, it is too early to say whether it will earn for itself a separate place as a subject for undergraduate study. When it has produced such fruit as biochemistry has done, we shall know that it has earned such a place. In the meantime it should be nourished and shielded from the east wind; the results of its research work will be valuable in any case.—C. Lovatt Evans, D. Sc., in The Lancet.

HERNIATION AND EXSTROPHY OF THE ILEUM IN THE NEWBORN INCIDENTAL TO ADHERENT MECKEL'S DIVERTICULUM IN THE UMBILICAL AREA

(CASE REPORT)

By WAYNE BRONAUGH, M. D.,
Parkersburg, West Va.

A Meckel's diverticulum is a finger-like outpocketing, found on the antimesenteric border of the ileum anywhere from 15 inches to 3 feet above the ileocecal valve. It occurs in about two or three per cent of all people and is a failure of complete obliteration of the vitello-intestinal duct on the ileal side. Usually, it has a diameter less than that of the ileum and varies in length from one-half inch to three or four inches. The diverticulum is usually free at its distal end, dangling in the abdominal cavity, but there can be a persistence of the vitello-intestinal duct extending from the tip of the diverticulum to the umbilicus. The remains of the vitello-intestinal duct can be a fibrous cord or it can be a sinus connecting the diverticulum with the umbilicus resulting in a fecal fistula. A cyst of the vitello-intestinal duct may form if both ends of the duct are closed and its epithetial lining takes on a secretory function.

Recently, a newborn with a very small sinus at the umbilicus was referred to me. (Fig. 1.) The sinus proved to be the result of ligation of a Meckel's diverticulum which was in the umbilical cord and was ligated with the cord at birth. A persistent vitelline artery also was present which extended from the umbilicus to the mesentery of the ileum. I believe that the rarity of this condition warrants the complete report of this case.

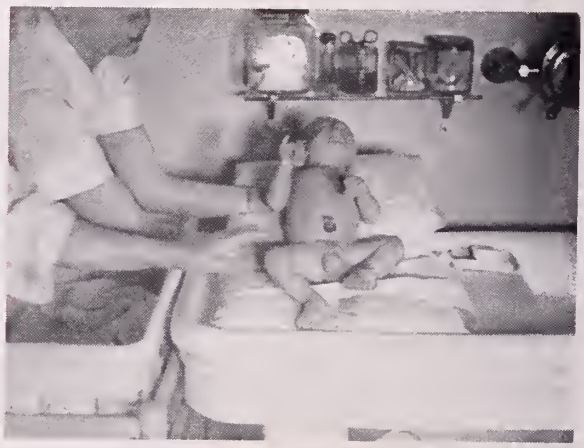

Fig. 1

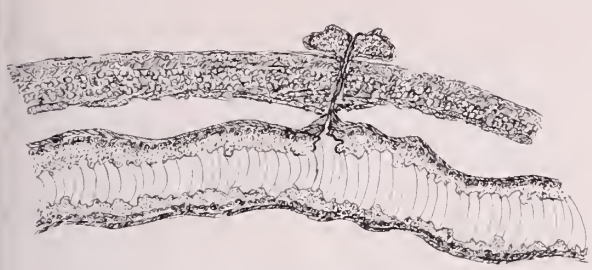

Fig 1-A. Schematic drawing to illustrate conditions present in Fig. 1.

CASE REPORT

Baby H., premature male twin, had an uneventful delivery on February 25, 1946. Its birth weight was five pounds. The cord appeared normal to the obstetrician and was ligated as usual. In 24 hours, the cord stump between the tie and the abdominal wall swelled to the size of an English walnut. In three or four days the cord underwent necrosis; and, at the end of one week, there was at the umbilicus a pecan-sized, reddened, raw-surfaced tumor which kept the dressings moist with a bloody secretion. The surface of this tumor would bleed upon the slightest disturbance.

The baby was seen by me in consultation on March 30th. The tumor was unchanged in size, reddened, and bled easily. The baby's general condition was good. He was taking feedings well and had gained one pound fourteen ounces since birth. At the consultation a diagnosis was made of a persistent vitello-intestinal duct or a persistent urachal sinus. On April 9th a cystogram revealed a normal bladder with no apparent urachal sinus. (Fig. 2.) A small probe was then passed through the tiny opening at the apex of the umbilical tumor and into the abdominal cavity for 1½ to 2 inches. A No. 8F catheter was next introduced and was fed in without resistance for six inches. Three cubic centimeters of Lipiodol was injected into the catheter, and anterior-posterior and lateral roentgenograms of the abdomen made. These revealed the Lipiodol to be in the ileum proving a communication of the sinus with the ileum. (Fig. 3.)

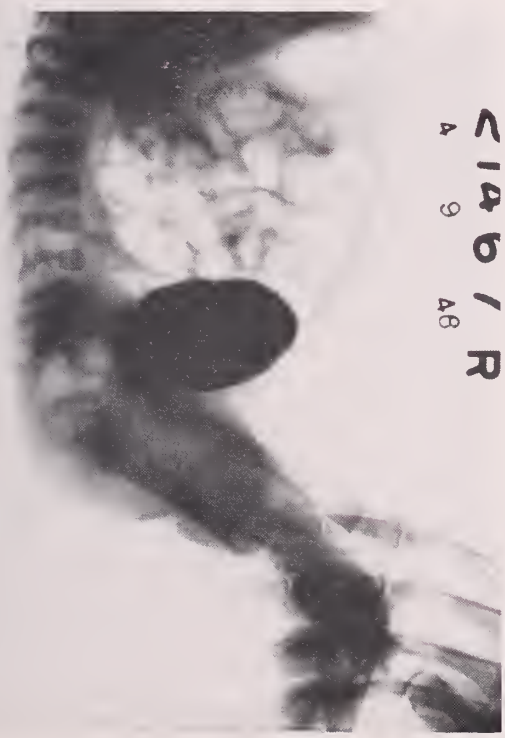

Fig. 2.

Fig. 3.

On April 11th, after discussing the problem with the pediatrician, it was decided to defer surgical treatment for 6 or 8 months until the baby was in better condition for surgery. He was doing fine. His weight, at this time, was 7 pounds 11 ounces. In order to eliminate the raw-surfaced umbilical tumor and obtain a small umbilical sinus for which the mother could easily care, the cord was re-ligated flush with the abdominal wall and the tumor allowed to slough away. The separation occurred on the fourth day after ligation, resulting in a small granulating area the size of a pea with a small sinus in its center. Intestinal juices in very small amounts,

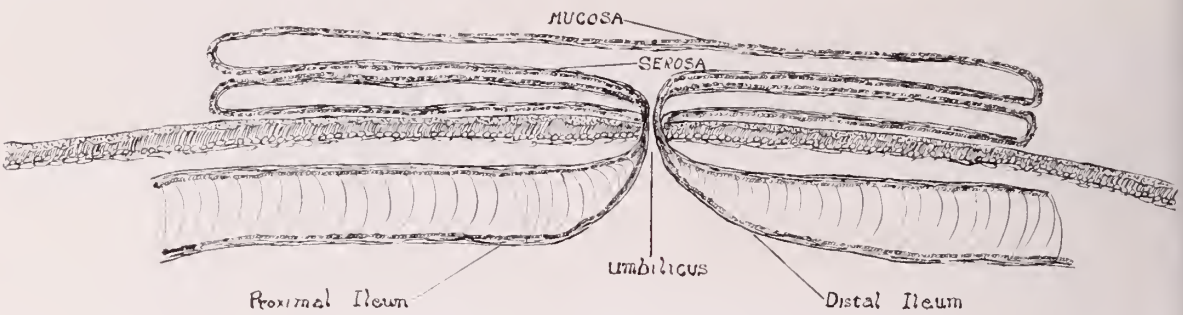

Fig. 4. Schematic drawing to illustrate conditions present previous to operation.

enough to dampen the dressings every 6 or 8 hours, were expelled through the fistula.

On April 18th at 3 A. M., seven days after religation of the cord the nurse discovered that the baby had herniated and evaginated about 2½ feet of ileum through the small umbilical sinus. When discovered, the ileum was lying on the outside of the abdominal wall, turned inside out, very dark in color, tremendously swollen, and extruding a bloody serum from its mucosal surface. (Fig. 4.) How long this condition had been present previous to discovery could not be determined. I saw the baby about 4 A. M. and the mass was not reducible. The gut at this time appeared to be nonviable. The abdomen was moderately distended but the general condition of the baby was still good.

He was taken to surgery about 5 A. M. and under ether anesthesia the umbilicus was excised and the abdomen entered. It was then found that the ileum had herniated and evaginated through the base of a Meckel's diverticulum in the umbilicus. After opening the umbilical ring, the herniation and evagination were easily reduced by traction and pulsion. After approximately ten minutes of hot packs to the damaged segment of the gut, it was determined to be nonviable. The line of demarcation was distinct. The segment was resected, followed by an end-to-end anastomosis. The distal point of section of the gut was about 2 inches amove the ileocecal valve. A persistent vitelline artery the size of a match extended from the umbilicus to the mesentry of the ileum near the base of the diverticulum. This was excised with the umbilicus and ileum. The abdomen was toileted well. Five cubic centimeters of sulfathiazole emulsion was placed in the abdominal cavity and the abdomen closed, without drainage, with interrupted cotton sutures. The baby was transfused with 80 cc. of citrated blood immediately after operation and

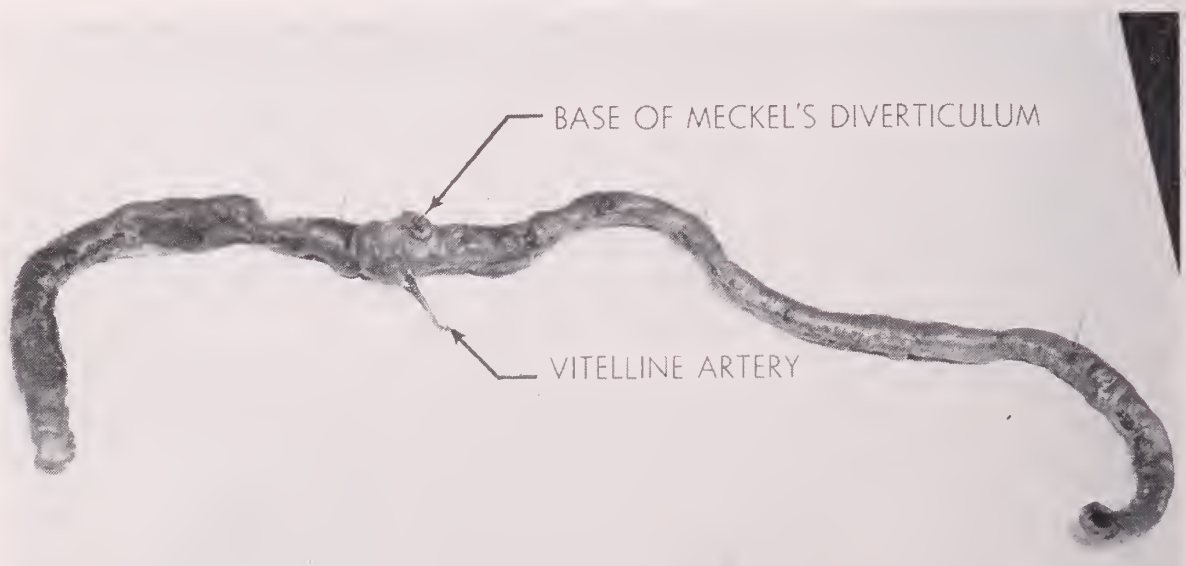

Fig. 5. Specimen of resected gut showing base of Meckel's diverticulum and persistent Vitelline artery.

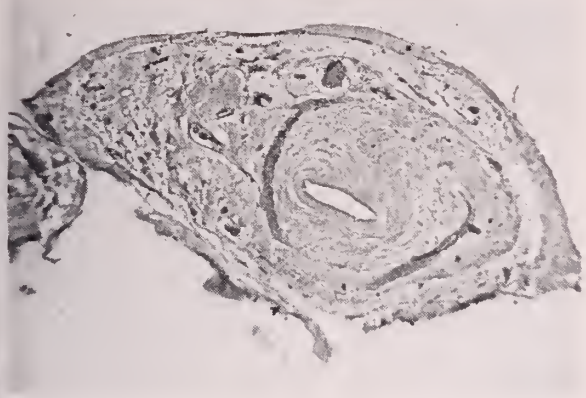

Fig. 6. Photomicrograph of section of Vitelline ortery.

again on the 2nd postoperative day, and parenteral fluids, 2½ per cent glucose in saline, were administered in adequate amounts. On the 4th postoperative day water was allowed by mouth in small amounts and on the 6th postoperative day the regular feeding schedule was resumed.

The postoperative convalescence was uneventful. On discharge the baby was taking his feedings regularly, the stools were normal, and the weight was 8 pounds 10 ounces. Up to this date, August 16, 1946, his progress has been normal.

DISCUSSION

At the fifth week of intra-uterine life the vitelline (omphalomesenteric) artery is the most prominent branch of the aorta. It arises from the aorta by several branches and, passing ventrally toward the umbilicus, it forms an arterial ring around the junction of the gut (ileum) with the vitelline duct. In its subsequent course, it is paired so that two vitelline arteries are identifiable. The paired vessels leave the embryo accompanied by the vitelline duct and are distributed as a ramifying plexus over the surface of the yolk sac. Coincidentally, with atrophy and degeneration of the yolk sac, one of the paired vitelline arteries disappears. The remaining one becomes the superior mesenteric artery.

Persistence of the vitelline artery manifests itself anatomically as an adventitious, intra-abdominal cord covered by peritoneum. Usually it is attached firmly at its two extremities, one to the abdominal wall at the umbilicus and the other to the mesentery of the terminal ileum. (H. G. Smithy and J. Allen Chamberlin, Surg. Gyn. Obst., 1946, 82: 579-585.)

From the sixth to the tenth weeks of embryonic life, the alimentary tube grows at a faster rate than does the celomic cavity, and a portion of the midgut protrudes out into the base of the umbilical cord. At about the tenth week the peritoneal cavity grows at a greater rate and the midgut is withdrawn into it. (Ladd and Gross. Abd. Surgery of Infancy and Childhood. 1941.)

A persistent vitelline artery is, in practically all cases, associated with a Meckel's diverticulum. It would appear, that in the case presented here the persistent vitelline artery by being short, and attached to the yolk sac and the base of the Meckel's diverticulum could have been the cause of the failure of the midgut to be withdrawn completely from the umbilical cord at the tenth week of embryonic development. The Meckel's diverticulum therefore could be retained in the umbilical cord by the short vitelline artery and be present there at birth.

RECENT GAINS IN CANCER CONTROL

There are a number of hopeful signs in the current cancer picture. One of them is the continued decline in the mortality from cancer among women.

In 1946, the age-adjusted death rate from this disease dropped to a new low among white females insured in the Industrial Department of the Metropolitan Life Insurance Company—namely, to 78.9 per 100,000 at ages 1 to 74 years. A little more than a decade ago the rate was at the level of 90 per 100,000.

Even among white male policyholders the mortality from cancer has shown a slight downward tendency; in the most recent five-year period, 1942 to 1946, the age-adjusted death rate for this group averaged 85.0 per 100,000 as compared with 86.8 in the quinquennium immediately preceding, a decline of 2 percent.

These figures understate to some extent the amount of improvement, inasmuch as better methods of diagnosis in recent years have led to the discovery of an increasing number of cases, and hence to the more frequent certification of cancer as a cause of death.

The recent trend of cancer mortality has its encouraging aspects, but it would be to misread the facts to conclude that anything beyond a mere beginning has been made in the control of the disease. Major advances are still awaited. Marked progress in reducing the cancer death toll can undoubtedly be achieved through a widespread educational program, urging people to seek medical advice as early in the course of the disease as possible.

As a complement to this program, it will be necessary to build and to equip additional cancer detection clinics, hospitals, and centers to care for the greatly increased number of patients seeking diagnosis and treatment. It will likewise be necessary to intensify the present cancer research program. These several points of attack on the cancer problem can be made effective only through the wholehearted cooperation and support of the American people.—Statistical Bulletin.

PREVENTIVE OPHTHALMOLOGY*

By DORSEY KETCHUM, M. D., F. A. C. S.
Huntington, West Va.

For hundreds of years physicians have studied the eye and many volumes have been filled as a result of their investigations. There is still much to be learned.

The diagnosis and treatment of diseases of the eye, ear, nose and throat is the oldest specialty, but we have been accused of not having made any real progress with regard to new ideas and methods of treatment for many years. Personally, I think that this is untrue, and that the advances made in ophthalmology and otolaryngology compare favorably with those made in other fields of medicine. It is my opinion that for years we were far ahead of any other specialty in our knowledge of the eye, and current literature is filled with new concepts of treatment by means of chemotherapy and advances in surgical technic.

I always have felt that ophthalmology probably is one of the most interesting branches of medicine. Surely refraction is one of the most exact of medical sciences, and almost all of the diseases of the eye can be really visualized in our observation and treatment. This is not true in dealing with many other parts of the body. On the other hand, the eye is an extremely delicate organ and its physiology is highly complicated.

Someone once said that the eyes are the windows of the soul. This is true indeed. Observation of the eyes aids in the diagnosis of many general diseases.

We have begun to study the complicated function of vision and now can prescribe a routine by which the healthy eye can be kept healthy and yield the maximum amount of use with a minimum degree of fatigue.

Originally, the eyes were intended for nothing more than the protection of man and to help him forage for his food. It is to be expected then that in the struggle for existence and survival in the present day world with eight to ten hours of exacting work, plus reading, picture shows, and so forth, eyestrain has become one of the most common conditions met with in the practice of medicine. This was especially true during the colossal war effort when increased demands were made on the eyes in industries where precision work had to be done. It is remarkable that an organ so highly developed can stand the strain, although frequently it cannot. We have two industrial plants in our own city and we see constantly cases of eyestrain among their employees, but the results of their examinations often are entirely negative, and it is extremely difficult at times to convince these patients that it is not glasses which they need but that their symptoms are due only to fatigue. We have found that there are few persons whose eyes can stand up under the strain unless they are in perfect physical condition. Industrial physicians have come to the realization that they must give prospective employees an eye examination and attempt to weed out those unfit for precision work.

Many general practitioners, internists, neurologists and psychiatrists do not recognize the importance of an eye examination except when the patient complains of poor vision. On the other hand, many ophthalmologists are too prone to attribute symptoms of eyestrain to a slight refractive error, and prescribe glasses or a slight change from a previous pair, when the trouble really is of constitutional or emotional origin. Too often a diagnosis of some type of neurosis is made and the case closed. Those of us who have not had experience in general practice are more likely to be guilty of this fault.

A recent publication by Marshall and Seiler of their statistical analysis of 3,219 persons certified blind from 1929 to 1935 raises the question of the preventive function of ophthalmology. There are 74,000 blind persons in England and Wales whose maintenance costs the state $4,200,000 annually, while practically nothing is spent on planned prevention of blindness by improved facilities for treatment, by education of the public, or by research.

According to Marshall and Seiler's figures, the seven most important causes of blindness are, in order of their occurrence, as follows: cataract, 16.77 per cent of the total examined; myopia, 16.34 per cent; venereal disease, 13.95 per cent; uveitis, 10.72 per cent; glaucoma, 8.69 per cent; congenital anomalies and abiotrophies, 7.45 per cent; injuries, 6.43 per cent.

Although the first four conditions named would suggest that the greatest percentage of blindness occurs in the older age groups and does not, therefore, carry so great an economic importance, actually only one-half of the number of persons became blind after age 50, and in two-thirds of these the underlying cause had started before that age. In view of the longer life expectancy of the present day and the increasing average

*Presented before the Junior Medical Society, at Huntington, West Virginia, May 3, 1946.

age of the population in general, as well as of workers in responsible positions, it is obvious that most of the causes of blindness begin to operate early enough to constitute a risk of economic importance. The relatively low percentage of blindness from injury is surprising until it is realized that the position of injury in the list of causes varies between 10.3 and 5.8 per cent, according to whether the first eye, the second eye, or both, are involved, and that most severe industrial eye injuries lead to the loss of one eye rather than both.

A few years ago I published a paper in the West Virginia Medical Journal on the subject of congenital cataract and reported the greatest number of cases occurring in one family which had been reported in the literature to date. Since that time, I have seen several more, making a total of approximately forty cases in my personal experience. In my article I reported the economic loss and the total approximate annual cost to the state in the case of this family and advised that some measure be taken to prevent the increase in this deplorable condition, but so far nothing has been done.

I would like to discuss preventive ophthalmology under the following seven headings: prenatal care, care at birth, care in infancy and childhood, corrective glasses, illumination, and industrial ophthalmology.

There are many hereditary diseases, the transmission of which is governed by definite laws, so that a potential parent who has a serious defect should consult a physician in regard to the possibility of its transmission. Some of the more common diseases which we should consider in this regard are congenital cataract, myopia, color blindness, and blindness associated with familial idiocy. Retinitis pigmentosa is likely to appear after intermarriage with blood relations. Microophthalmia is another hereditary condition sometimes seen which predisposes to chronic glaucoma. All of us are well aware that hereditary syphilis often attacks the eye, and we now have a state law requiring a Wassermann test on pregnant women. If proper treatment is instituted soon enough these conditions can be eliminated.

For many years one-third to one-half of the blind owed their misfortune to ophthalmia neonatorum until investigators found that instillation of 2 per cent silver nitrate into the eyes of infants at the time of birth gives almost complete protection. The most frequent causative bacterium is the gonococcus, but the pneumococcus and many other pyogenic germs may at times be almost as dangerous as the gonococcus. It was found later that 2 per cent silver nitrate was too strong and the reaction to the drug sometimes serious. At present, a 1 per cent solution is used and found to be sufficient. I have had 3 cases of gonococcal infection since the advent of penicillin. Twenty-four hours after its use the smears have been negative. Before penicillin and the sulfonamides were available, two or three weeks of almost constant irrigation were sometimes necessary before obtaining negative smears.

The care of the eyes in childhood is of extreme importance. Many of the childhood diseases, particularly measles, often are complicated by conjunctivitis and phlyctenular keratitis, the latter possibly leaving scars diminishing visual acuity. Many people still make a practice of putting these cases in an ill-ventilated and darkened room, which I believe is a mistake, as light and air are stimulating to body repair. The photophobia accompanying such conditions can be controlled by the use of colored glasses.

In eye conditions in which there is excessive secretion, bandages are contraindicated and ordinary cleanliness and frequent irrigations with bland solutions are called for. If corneal complications occur, skilled treatment is indicated.

Sunlight is essential to the infant and his carriage should be placed in the sunlight as frequently as weather permits, care being taken that the child is not looking directly into the sun. The infant's toys should be large with no fine detail, and the same applies to the toys of children through the kindergarten age. Their first books or primer should be in large print and wide space, as otherwise definite harm might be done to eyes that are not normal.

In my opinion, much good could be accomplished by giving every child a complete eye examination when he leaves kindergarten and enters his first year of school. After such an examination the parents could be advised as to the amount of work the child should do, what he should avoid and the frequency of examinations. It has been my experience that visual acuity tests conducted by teachers and nurses have not been very accurate. Even though a child may have normal vision, he still can have a rather high refractory error and be in need of glasses.

Time will not permit of a thorough discussion of the care that should be instituted by the parents and teachers in regard to work, type of books and paper, and seating arrangements in school.

I would like to call to your attention the fact that many doctors still are advising parents who have children with strabismus to wait until the child is about five years old before having him examined by an ophthalmologist. These parents are ill advised, as is is most important to determine a refractive error as early as possible. The ophthalmologist who is skilled in the use of the retinoscope can take a most accurate measurement of the error of refraction as soon as the child will cooperate sufficiently to sit still for a few moments on its mother's lap. Frequently, we are able to do a retinoscopy and put glasses on children as young as eighteen months. If glasses do not straighten the eyes and the child has a unilateral squint, he will develop amblyopia in the squinting eye if he is not forced to use it as a result of having atropine instilled in the good eye or having it patched. This is extremely important. All children who do not have sufficient vision to carry on in the so called sight-saving classes, in my opinion, should be referred immediately to special schools for the blind where they can learn various trades or professions and thus be able to take their respective places in life without becoming a burden to the state.

As a child grows older he should be guarded against ordinary accidents and common infections, and his eyes, by all means, should be taken into consideration as to how long his education should continue and what profession, trade, or type of occupation he should follow.

As far as care in adult life is concerned one should use merely ordinary protection and care, and particularly watch for eyestrain during the educational period, as functional troubles then more than at any other time, are far out of proportion to organic disease.

In middleage, presbyopia should be watched for and taken care of with glasses as soon as it appears. The general health should be guarded and periodic general physical examinations should be undergone, for from this age on foci of infection, cataracts and many general diseases, if not detected and properly treated, may cause serious eye complications resulting in possible total blindness.

As to eyeglasses there are two kinds, protective and corrective. They are worn for three reasons: for protection, to improve vision and to relieve eyestrain. Protective glasses should be worn by people such as engineers, motorists, bus drivers, and skilled workers in steel, stone, glass, and so forth. Those who do electric welding and work around the blast furnaces should wear protective goggles. Hyperopic, myopic, and astigmatic individuals usually wear glasses both for strain and improvement of visual acuity. The myope may have extremely poor vision for distance but has good vision for close work. His strain is due to the effort to overcome his defect in order to see well in the distance. The hyperope is just the opposite. He may or may not have normal vision in the distance but his strain is present in doing close work. For instance, if he had one diopter of hyperopia, in order to see comfortably at close range he expends twice the effort of convergence and accommodation that he would if his eyes were in a perfect state of refraction.

The myopic eye is elongated, the hyperopic short, but the astigmatic eye can be either long or short, hence, myopic or hyperopic astigmatism. Simple, compound, and mixed are the three types of astigmatism. Simple astigmatism means that the refraction is normal in one meridian and either myopic or hyperopic in the other. Compound astigmatism means that the refraction is more hyperopic or myopic in one meridian, neither meridian being normal. Mixed astigmatism is a condition in which the refractive state of one meridian may be hyperopic and the other myopic.

The astigmatic individual may see fairly distinctly, but his focusing apparatus is never at rest. Consequently, astigmatism causes more trouble for physician and patient than all other refractive defects combined.

It is remarkable how some individuals can compensate for their visual defects through excessive muscular and nervous energy before breaking down and not making much effort to see any more or before exhibiting symptoms of eyestrain necessitating glasses.

It is the duty of the physician to determine whether or not glasses should be worn, whether they should be worn constantly or just for close work, and to inform his patient of any procedure which might protect or strengthen his eyes, such as muscular exercises and the type of work the individual should do .

Proper lighting is one of the most important factors in ocular hygiene. None of the theories of light are entirely satisfactory and I shall not attempt to discuss them or go into any detail about electric illumination.

The eye is exquisitely sensitive to variations in brightness and an approaching motor headlight hardly visible by daylight. This fact and sudden at night may almost blind one, although it is

dazzling light are common causes of accidents in driving and in industry. Any bright light shining directly into the eyes reduces vision and if it flickers, may be very disagreeable. It is possible, even, to have serious glare from metals, glass and paper surfaces.

The north light always has been accepted as being the best light since it is diffuse and comes from one single point. This diffusion is the secret of all good lighting, natural and artificial. It is difficult to have too much light if it is properly diffused by the proper bulbs, shades, walls and ceilings. In the indirect system of lighting, the light is first diffused with frosted bulbs, thrown on the ceiling and then reflected downward. A combination of direct and indirect lighting, known as semi-indirect, is considered the most satisfactory. The illumination is so arranged that there is no light source in view of the eye and the light is diffused so as to avoid all highlights and glare on the work. Under these conditions no lighting seems too bright.

The ophthalmologist frequently is asked to give advice concerning fluorescent lighting. In spite of the development of fluorescent lighting during the last six years it is too early to give an unqualified opinion; however, I believe that most ophthalmologists think that it should not yet completely replace the more conventional types. In my own experience, I am positive that I have seen some cases of eyestrain due to fluorescent lighting. This, however, was in the early days of production and one-tube lights.

Fluorescent lighting has its advantages. The most important one is that it more nearly approaches daylight. Also, it has a relatively small heat output. Some people appear to get along quite satisfactorily under fluorescent lighting while others do not seem to tolerate it. Considerable research work is being done at the present time and, in all probability, fluorescent lighting will, in the future, replace our conventional type of lighting.

Industrial hygiene of the eyes, which is a major development of the last decade or two, is based on the legal responsibility of employers for disability acquired in industry. Injury to the eye is the most expensive type of industrial accident. Under the pressure of state laws and insurance companies a technic has been built up for each industry, adapted to its own peculiar risks.

Physical examination before employment is fast becoming essential in order that one may be sure that the employee is adapted to his work and is free from communicable disease. In some industries special attention is paid to errors of refraction, and rest periods of a few minutes for the purpose of relaxing fatigued eyes now are considered good business because the efficiency of the employee is increased. Some plants make it compulsory that the employees wear goggles and one of our own plants here in Huntington pays for its employees' goggles which are made individually from prescription.

In many types of eye injury the rapidity and skill with which first aid is given is extremely important. Many plants are equipped with conspicuous fountains where the eyes may be washed freely with water when necessary. Others have conveniently located places where acetic acid may be used for alkaline burns and alkali for acid burns.

One of the most important things for an ophthalmologist to do in the case of an eye injury is to record the visual acuity. One of the most frequent industrial eye injuries is corneal abrasion or foreign bodies embedded in the cornea. In the hands of a skilled physician or his assistant such injuries are quite easily taken care of and small abrasions usually heal over in from twenty-four to forty-eight hours. If we could only teach industrial physicians and nurses to refer these cases to an ophthalmologist, it would save much economic loss to the company and to the patient. It is not unusual for us to see a patient with practically half of the corneal epithelium abraded due to the unskilled attempts of a nurse to remove an embedded foreign body.

In the larger plants a great reduction has been made in the number of accidents and in the average time of disability when accidents occur. There is constant improvement being made in methods of protection and treatment. These methods are available to industry as a whole, and the larger plants have a definite routine. In the smaller plants where accidents are not an everyday occurrence, precious time is lost and the final treatment is neither so specialized nor so efficient.

ATOMIC ENERGY IN MEDICINE

Under the impetus of war, millions of dollars were willingly expended in a search for the most destructive weapons for mankind. Out of these efforts came the atomic bomb. Fortunately, atomic energy can also be diverted to alleviate human suffering. Significant advances have already been made with such chemical agents as radioactive phosphorus and radioactive iodine. The radioactive isotope of carbon, C-14, offers an agent for fundamental studies in metabolism. Given wise direction and financial support, further beneficial medical contributions will be forthcoming in the field of atomic energy.—Wesley W. Spink, M. D., in Journal-Lancet.

COOPERATION OF MEDICAL PROFESSION IN VOCATIONAL REHABILITATION PROGRAM

By F. RAY POWER,
State Director of Vocational Rehabilitation,
Charleston, West Va.

Vocational rehabilitation is provided by the West Virginia Board of Vocational Education, Division of Vocational Rehabilitation, as a service to preserve or restore the ability of our people to work. Authorized by Federal and state laws, it is a public service for citizens with physical or mental impairments.

From Pearl Harbor to V-J Day it is estimated that five American civilians were disabled for every disabled American serviceman. When these facts are applied to West Virginia it is estimated that 3,700 West Virginia servicemen were disabled from Pearl Harbor to V-J Day, and that 18,500 civilians were disabled within the same period.

From studies of the U. S. Public Health Service it is estimated that West Virginia has a backlog of approximately 15,000 disabled civilians in need of rehabilitation and that the increment of increase through accident and illness, or from congenital causes, is 2,500 annually.

Vocational rehabilitation is a public service in the same sense as the public schools, welfare agencies, and police departments. It is not charity. Rehabilitation services are intended as a legal right.

Briefly, the following services are provided for disabled adults in West Virginia:

1. Thorough physical examinations.
2. Necessary medical, surgical, psychiatric, and hospital services.
3. Necessary prosthetic devices, such as artificial limbs, hearing aids, trusses, and the like.
4. Individual counseling and guidance.
5. Training for a job – in schools, on the job, by correspondence or by tutor.
6. Maintenance and transportation during rehabilitation, if necessary.
7. Necessary tools, equipment, and licenses.
8. Placement on the right job.
9. Follow-up to make sure the worker and the job are properly matched.

Vocational rehabilitation services are made available to disabled persons in all sections of West Virginia. The state office is in Charleston. Field offices are located in Beckley, Bluefield, Charleston, Clarksburg, Huntington, Martinsburg, Parkersburg, and Wheeling. From these points, professional workers who are expert in handling the problems of disabled persons visit such persons and arrange for their rehabilitation.

Applications for any services should be made to the Division of Vocational Rehabilitation, Charleston, or to the nearest field office. If a person is in need of vocational rehabilitation and does not know where to apply, he usually can find out by asking a public school official, a county health officer, his family physician, a representative of the local employment office, or a representative of the department of public assistance.

All men and women of working age with substantial job handicaps in the form of physical or mental impairments are eligible. The services are not only for those whose disabilities are readily seen such as amputees, paralytics, spastics, and the blind, but also for those with unseen handicaps, such as tuberculosis, emotional disabilities, arthritis, deafness and heart disease. In short, any condition resulting from accident, illness, or any other cause which substantially prevents or interferes with one's earning a living makes the individual eligible for vocational rehabilitation.

Special efforts are being made to increase rehabilitation services for people with epilepsy in the belief that with modern methods of medical control and the wide range of rehabilitation services now available, the majority of epileptics can be successfully employed. Emphasis is being placed also on services to persons with cerebral palsy and to the severely handicapped, including those who cannot leave their home.

The tuberculous receive special services. Counselors survey all cases in sanatoria with favorable prognoses and accept for service those in need of rehabilitation. Commercial training is being provided at Pinecrest Sanatorium. Similar courses will be provided in other sanatoria in the near future. For the biennial period ended June 30, 1946, 170 persons received services and 62 were rehabilitated into employment.

To be eligible for vocational rehabilitation services, a man or woman must (1) be of work age, (2) have a substantial job handicap because of physical or mental disability, (3) have a rea-

sonably good chance of becoming employable or of getting a more suitable job through the rehabilitation services.

As has been indicated, a full range of vocational rehabilitation services is now available to the disabled. The orginal Federal Vocational Rehabilitation Act of 1920 limited services to the physically handicapped and did not provide for physical restoration. The 1943 Amendments authorize rehabilitation services to the emotionally and mentally ill, and provide for a comprehensive program of physical restoration services. In addition, there are specific provisions for the rehabilitation of the blind. The West Virginia Rehabilitation Act of 1945 authorizes any service necessary to prepare a disabled person for employment.

The vocational rehabilitation client pays nothing for his medical examination, physical and vocational diagnosis, guidance, training, or placement.

To the extent that his financial condition will permit, he is required to pay for all other services including medical, surgical or psychiatric care, hospitalization, nursing care, drugs, appliances, tools, licenses, travel and living expenses while undergoing rehabilitation.

In every case, the Division of Vocational Rehabilitation makes the decision as to how much the client will pay. This is required under the state and Federal laws and makes it necessary for the representative of the Division to check up on the client's financial resources. All such information the client gives the Division is kept confidential.

I have listed nine major services which are provided disabled persons through vocational rehabilitation. The first three of the services listed relate to physical restoration and will be discussed somewhat in detail.

Michael J. Shortley, Director, U. S. Office of Vocational Rehabilitation, states, "In establishing the physical restoration program in our Federal Office, we have sought advice both from within the government and from outside. By agreement with the Surgeon General of the U. S. Public Health Service, our medical section is directed by medical officers assigned to our office from the Public Health Service. In time, we hope for similar assignments of other medical officers to carry responsibility in specialized fields."

The Physical Restoration Section of the West Virginia Division of Vocational Rehabilitation is composed of a supervisor of physical restoration who is a full time employee, a medical consultant who is a physician employed on a part time basis, and a professional advisory committee of physicians who are members of the West Virginia State Medical Association.

The services necessary to provide for the physical restoration of disabled clients are purchased directly from physicians, psychiatrists, dentists, physical therapists, occupational therapists, nurses, hospitals, convalescent homes, artificial limb manufacturers, hearing aid manufacturers, optical companies, and other suppliers of prosthetic devices.

Although physical restoration is a comparatively new service in the program of vocational rehabilitation, substantial progress has been made in West Virginia due to the interest and cooperation of our physicians. For the biennial period ended June 30, 1946, the following physical restoration services were provided clients: medical examinations, 3,012; medical and surgical treatments, 438; hospitalization, 5,106 days; eye glasses, 116; artificial limbs, 363; hearing aids, 54; braces, 40.

The applicant may go to his family physician for his physical examination and to any qualified specialist for special services. Medical examinations and services necessary for the client's physical and mental restoration must be authorized by the Division before payment may be made for such services.

Physical restoration may be provided for individuals who have substantial employment handicaps which are static or slowly progressive in nature. Everything that is done for a client is related to his employment and an agreed upon job objective. Emergency care or treatment for acute or short term illness is not given. For example, the person with a perforated stomach ulcer or with pneumonia would not be eligible for treatment. Medical opinion must be that the proposed treatment is likely to reduce or remove the disability within a reasonable period of time, and hospitalization is limited to a maximum of ninety days.

The fact that over 900 West Virginia physicians and 40 hospitals furnished services to rehabilitation clients within the last fiscal year is evidence of the wide participation in the physical restoration program on the part of the West Virginia medical profession.

To sum up, our rehabilitation program emphasizes constructive medical measures designed primarily to assist a handicapped person obtain remunerative employment. Medicine, psychiatry,

surgery, physical therapy, occupational therapy, and vocational education — each invaluable — are tools a hundredfold more valuable when used to complement each other.

At the moment, we are in the stage of determining the scope of physical restoration services and agreeing on standards for physicians and specialists, hospitals and other facilities that provide services under our state program. We are seeking to establish closer cooperation with public agencies in related fields, such as the health department, department of public assistance, workmen's compensation, veterans administration, and others, for the purpose of correlating the work and avoiding duplication of services.

I stated earlier that the mentally as well as the physically handicapped now can receive vocational rehabilitation through our program. Dr. Winfred Overholser, Superintendent of St. Elizabeth's Hospital, Washington, D. C., has called attention to the significance of including the mentally handicapped for rehabilitation. She states, "The increasing knowledge of the mental mechanisms involved has resulted in a new attitude on the part of the physicians and the public, an acceptance of the fact that conditions of this sort are treatable and many of them curable."

Doctor Overholser's opinion that a good deal can be done for certain types of mental disorders is shared by many eminent psychiatrists and obviously was in the minds of members of the Congress in enacting our new legislation. We all know that a man unfit for military service is not necessarily less the useful citizen, for daily we see men who could do a good day's work in shop or factory, but who would be a total loss on a battlefield. We find hope also in the experience of servicemen who, after severe hardship, developed psychiatric disorders from which they have recovered to become as useful as they formerly were in civilian life. Recognizing the difficult problems of mental illness, we are attempting a rational and sympathetic approach to rehabilitation for this large group of the disabled.

Our consideration of the role of psychiatric assistance in our program is from two angles: first, that relating to those physically handicapped persons who have mental and emotional conflicts to complicate the problem of physical rehabilitation, and second, to those persons who are handicapped by a primary psychiatric disorder, particularly those with early mental illness.

You doubtless are concerned about the employment opportunities which can be provided the mentally disabled. At present the selection of employment objectives is somewhat circumscribed by the employment fields that are open to persons rehabilitated from mental illness, due in part to misunderstanding and prejudice. We shall find and develop additional work opportunities as our program progresses.

In a general sense, it probably is true that an indirect contribution is made to the mental health of every person who receives services under our program. The mere knowledge that vocational rehabilitation is a public service for their needs is a morale builder. The philosophy of the program develops mental strength to overcome handicaps. Frustration is removed by the substitution of the definite objectives of return to employment through practical job preparation, while the whole process of counseling and guidance tends to evaluate emotional problems and to aid in their adjustment.

Rehabilitation services must accelerate rapidly in order to serve the most urgent cases. We are encouraged in our work by the widespread interest in rehabilitation by the West Virginia medical profession. The organized and individual help of the physicians and surgeons, and that of other groups concerned with the problem, is vitally related to our ultimate aim — the restoration of every disabled person possible to the economic independence of self-support.

ELECTRIC SHOCK THERAPY

Practically all psychiatrists now agree that electric shock is of value in the affective psychoses. It is probably most beneficial in the involutional depressions, over 80 per cent being conspicously improved. This is important in a condition in which without treatment protracted depression was the rule, sometimes lasting for years.

In manic-depressive patients, especially in the depressed phase, there is also about 80 per cent recovery after electric shock, but it must be remembered that the attacks of this disease are self limited and that if the patients were left untreated 80 to 90 per cent would recover spontaneously. The risk of suicide, however, is great, and shock treatment will save a certain number of patients who would kill themselves if left alone. Moreover, the shock treatment shortens the depressions and saves the patient many weeks or months of unhappiness.

In schizophrenia electric shock is largely of use as a symptomatic treatment to quiet disturbed patients. Many schizophrenic patients have appeared to improve after courses of electric shock, but most of them later relapse.—Stanley Cobb, M. D., in Archives of Internal Medicine.

TUBERCULOSIS ABSTRACTS*

THE OPPORTUNITY

Tuberculosis, which remains a major health problem all over the world, has been under concentrated attack in this country for over 40 years. The greatest effort ever made to eradicate tuberculosis in livestock in the United States was begun about 1900. The result is that today the milk we drink comes from tuberculosis-free dairy herds and our meat comes from non-tuberculous animals.

Viewed from the standpoint of all humanity, this remarkable achievement is little more than an impregnably secured beachhead; but for Americans it has meant almost complete elimination of all human forms of bovine tuberculosis (largely tuberculosis of the bones). Ultimately other countries must also reduce animal turberculosis.

Today, hospitals are participating in the greatest direct effort ever made to eradicate tuberculosis in humans. This movement began rather slowly about 20 or 25 years ago with tuberculin testing programs for selected groups. This was accompanied by construction of numerous sanatoriums to care for discovered cases. Soon it was learned that physical diagnosis would not discover early cases, but that the X-ray could. There has been real progress. National tuberculosis mortality rates have declined and some areas have achieved mortality lows which were not considered possible 40 years ago.

Despite all this, it was not until about ten years ago that the prospect of complete eradication became a foreseeable probability. The earlier programs, depending on tuberculin testing, physical diagnosis and limited use of the X-ray, were too cumbersome and expensive for universal coverage and diagnosis of cases in their early stages. These handicaps were overcome by the development of photofluorographic X-ray equipment and there now apears to be justifiable optimism toward the problem of tuberculosis eradication.

The Council on Professional Practice of the American Hospital Association believes that the immediate need is to extend the practice of routinely X-raying chests. This should be done in many different population groups, but the council is, of course, primarily concerned with the hospital program. A few statistics and facts may be worth repeating.

Hospital admissions now exceed 16,000,000 a year. There are other undetermined millions who are seen in outpatient clinics. These two groups lend themselves to routine radiography; they are in hospitals which have the X-ray equipment and the specialists; there is a minimum of inconvenience to the patient; there is a minimum of expense to the procedure; the percentage of cases found is higher than in other large cross sections of the population. Furthermore, many of these persons would not be reached by programs directed at industrial or other population groups. Finally, this is one of the largest organized groups available for routine programs.

Hospitals which routinely X-ray chest of admissions, outpatients and employees give additional service to their patients and provide a new protection to the hospital. Infectious cases may be segregated from other patients; the employee knows with which patients he must use added precautions to protect himself; in up to ten per cent of patients non-tuberculous conditions may be revealed. It is not intended here to exhaust the arguments in favor of routine chest radiography in hospitals. Those described are important enough to justify the procedure, if the routine is practicable—administratively and economically. It is noteworthy that the Council program stresses practicability rather than theory.

Two years ago the Council surveyed all hospitals to determine the extent of routine radiography. Of 104 hospitals reporting programs, further checking suggests that only a moderate per cent had a routine considered adequate today. On the other hand, a few weeks ago at a regional hospital meeting a dozen or more administrators indicated their hospitals are now X-raying chests routinely. In one state two photoflurographic units have been purchased by local tuberculosis associations and placed in hospitals, and four more are on order, or have had funds earmarked for the purpose. The U. S. Public Health Service has approved, or will approve, funds for state and local health departments with which to place several hundred X-ray units in hospitals. Many hospitals are setting up the programs on their own or other sources.

Hospitals generally are now much more interested than they were a few years ago in making their facilities avilable, not only for the care of tuberculosis cases, but for other long-term treatments, such as those required for psychiatric patients and convalescents. It has been difficult to increase this type of service because of crowded conditions in hospitals.

The institution of case-finding routine radiography by hospitals, however, will bring general hospitals face to face with the necessity of providing facilities for temporary handling of some of the discovered cases.

Routine chest X-raying should not be deferred simply because of the fact that cases of tuberculosis will be discovered. These patients are in hospitals for other reasons in the first place. Failure to discover tuberculosis results in these undiagnosed cases of tuberculosis exposing other patients and employees to tuberculosis. Until new construction permits adequate care for tuberculosis itself, hospitals should be able, with the aid of the manual "The Management of Tuberculosis in Hospitals,"* to accept with safety tuberculosis patients for non-tuberculosis treatment.

Human tuberculosis is under the most severe attack ever directed at it. The best thinking today appears to be that eradication will be achieved only after a long pull; that more intensive discovery programs will continue to increase the known cases for years to come; that the sensible course is to create the programs and facilities necessary now to maximum discovery and adequate treatment.

Many national, state and local organizations are coordinating their efforts to eliminate this disease. The hospital has a dominant part in the program. It can become a major case-finding agency by routinely X-raying the chests of all patients on admission, all outpatients and all employees.—*The Opportunity, Robin C. Buerki, M.D., Hospitals, August, 1946.*

*Issued monthly by the Notionol Tuberculosis Associatian and furnished through the courtesy of The West Virginio Tuberculosis ond Heolth Associotion.

*Published by the American Hospital Associatian, Revised Edition, 1946.

The President's Page

In a previous page I spoke of the inadequacy of funds to pay a reasonable cost of medical care for people on relief. It was pointed out that in the early days of public assistance members of the medical profession in West Virginia offered their services with a remuneration of a fraction of current charges. The hospitals exhibited the same sort of generosity. For a decade now and until just recently the doctors and hospitals have accepted without protest this sub-standard remuneration for services, and the failure to appropriate adequate funds has not been altogether the fault of the legislature. With mounting operating costs, the hospitals for some time have not been able to carry the load, and some relief has been provided by the session of the legislature just ended. To pay a reasonable cost and thus relieve hospitals and doctors of absorbing the deficit, it would appear that appropriations for the current fiscal year would have to be doubled.

Except for Emergency Maternity and Infant Care which was created as a war measure and certain rehabilitation services which are available through the Department of Education, no tax funds in West Virginia are available to provide general medical care above the destitute level. Even with adequate care at the destitute level, there is still an economic gap in our system of medical practice, and I wish now to discuss the problem of medical care for a larger group of people who are designated economically as "medically indigent".

Conservative estimates place at 20 per cent of the population the number of people in the United States who are not able to pay the cost of medical care. We are too prone to think of the medically indigent as those who are destitute and are on relief rolls. There is a much larger group of persons who are able to earn enough money to purchase food and shelter but who cannot afford the cost of sickness care. In the same category are an ever increasing number of beneficiaries of old age and survivors insurance, people who are living on small retirement incomes, and dependent wives and children who have no other source of income except workmen's compensation benefits. Most of these people are able to keep the wolf away from the door, but it is doubtful if many of them could afford even the minimum premium cost of sickness insurance.

In a country which boasts the best medicine in the world, no one would deny that every person is entitled to the benefits of good medical care. And yet we have to admit that these benefits are not within the reach of a good many people.

I would be in full accord with the idea that each community should be responsible for its own medical problems if the idea would work. But the idea does not work. Even for the care of the destitute, it has not worked in West Virginia at the county level and has not been adequate at the state level. We may as well face the facts then and accept the federal government's entrance into medicine to the extent of paying the cost of medical care for all those people who are not able to pay the cost.

The solution of the problem would appear to be the passage by the Congress of the Taft-Smith-Ball-Donnell bill. This bill (S-545) was introduced February 10 and was referred to the Senate Committee on Labor and Public Welfare. Besides creating a National Health Agency which would coordinate all federal health activities in one agency, the bill provides for general medical care for families and individuals with low incomes by federal grants to states having approved plans. The grants would be administered at state levels.

In commenting on the proposed legislation, I am certain that Senator Taft expressed the viewpoint of more than 90 per cent of the medical profession when he said: "The bill we are proposing proceeds on the theory that the United States already has a comprehensive medical service, as good as any in the world, but that there are gaps in the service, particularly in reaching the lower income groups. Our bill encourages and assists every state to fill up these gaps, building upon the existing foundation. Free service will be furnished to those unable to pay."

W. H. H. Clark

President.

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WEST VIRGINIA LEADS

West Virginia is truly a leader in cancer control activities, being one of the few in which there exists an organized cooperative effort on the part of the three main groups which must be concerned with the cancer problem. We have a very cancer conscious medical profession which, through its various cancer committees, is cooperating and guiding the volunteer health agency and the activities of the division of cancer control in the state health department. This three-pronged attack against cancer in West Virginia will undoubtedly bear fruit in reducing the death rate which now claims the lives of one out of eight persons. This is the slogan of the current West Virginia Cancer Society campaign.

April has been designated by proclamation of the President as "cancer control month." During this month the Field Army of the West Virginia Cancer Society will conduct an intensive educational and fund raising campaign. From the amount so raised, twenty-five per cent will be earmarked for research and fifteen per cent by the American Cancer Society for education and services to the cancer patient on a national level. The remainder will be kept in this state for use by local organizations.

Several months ago the West Virginia Cancer Society was organized. It is an outgrowth of the West Virginia Field Army. This reorganization was made because of the rapid growth of the American Cancer Society from an organization raising several hundred thousand dollars to one that last year raised nearly fourteen million dollars. The Field Army in West Virginia is the active service and fund-raising branch of the West Virginia Cancer Society, Inc.

Leading physicians in cancer work in West Virginia are on the board of directors and the executive committee of the West Virginia Cancer Society. The organization's objective is to save human life and relieve suffering by service to the cancer patient, through education, and by financing research into the causes and cure of the disease.

The West Virginia Cancer Society finances its research by its affiliation with the American Cancer Society which awards grants to the various colleges and universities for fundamental research on the cancer problem. This voluntary health agency exists for the purpose of assisting the people to meet a health menace not controlled by existing organizations. Its function, like that of other health agencies, is to advance knowledge by pushing forward the frontiers of science, applying this increased knowledge to the health problem.

Obviously, no one agency, governmental or private, has resources adequate to cope with a problem of this magnitude. The necessity for seeking assistance and cooperation of all groups is apparent. The ultimate goal of this voluntary health agency is to bring cancer under control. This goal can be attained in West Virginia by the generous contributions of our citizens to the Society and by our interest in and support of the tax-supported official division. We must be ever conscious of the fact that neither agency can continue to serve or survive without the continued interest and support of every physician in West Virginia.

AN OVERSIGHT

Generally speaking, we are of the opinion that the Forty-eighth Legislature did a good job and enacted much constructive legislation. However in our judgment, the fact that it did not appropriate sufficient money for salaries to permit the state department of health to employ top flight men to head its various divisions is not only unfortunate but detrimental to the best interests of the state.

The price private industry pays for the service of technical scientific experts should be taken into consideration in setting the salaries of such individuals when the state is bidding for their services. One cannot blame a well trained scientist

for selling his skill and service to the highest bidder, assuming, of course, that the work he is engaged to do is legal and upon a proper moral plane. Moreover, the business of the public is of more value to all concerned than is the business of any particular industry or segment of the population. Hence governments should be enabled to pay the salaries necessary to secure the best scientific service available.

Possibly the failure of the board of public works and the budget director to recommend and the legislature to appropriate sufficient funds for the state department of health was due to heavy pressure from other groups seeking increased appropriations, principally for teachers and secondary roads. Certainly we should make a better showing next time.

It has been well said that good public health is a purchasable commodity, and certainly good health is a basic essential in community happiness. In the final analysis, the primary function of a health department is educational, and a state health department should be in a financial position to secure the services of top flight executives in its various divisions in order to be most effective in accomplishing this objective.

The medical profession should educate the members of the next legislature as to our health needs, for the doctors know better than any other calling what these needs are.

Better luck in '49!

CANCER COMBAT TROOPS

Assembled in Parkersburg today is an army of men and women organized to fight one of the most insidious foes of the human race — cancer.

Theirs is a difficult battle. Cancer is a cunning killer, working from ambush, betraying his presence only to the skilled observer trained to "read signs".

Cancer strikes from a masked battery, with forces usually concealed until the attack is under way and hard to repulse. Counter-attack is possible only when the enemy has been discovered.

But discovery is possible with the help of those trained for the task. And the only persons "trained for the task" are reputable, competent, qualified physicians.

Too much emphasis cannot be placed on the advice: "Go to a doctor." That means a qualified doctor of medicine. It doesn't mean the clerk in the corner drug store for an advertised "cure for cancer." It doesn't mean a quack who professes to have some "miraculous salve guaranteed to cure." It doesn't mean some one steeped in "old wives" lore.

Cancer can't be conquered or controlled by superstition and ignorance. It can be conquered by enlightenment of the public as to its habits; and by treatment, by doctors of medicine, by surgery, x-ray, and radium.

Ignorance, superstition, and "miraculous salves" have filled countless graves in West Virginia with victims of cancer who might have been cured had they been enlightened and had proper treatment.

Enlightenment of the public, education of the people, is one of the major objectives of the West Virginia Cancer Society, the general assembly of which is meeting in Parkersburg today. In attaining this objective, it must, of course, deal with frightful facts and fearful figures; but it can also spread this message: "Don't be afraid of cancer—just be afraid of not discovering it early!"

The Society's program is one of hope. It seeks to educate the citizens of West Virginia generally about cancer and to aid individuals, financially and otherwise. Approved local projects in operation or soon to be in operation include service and information centers in several cities; employment of trained medical social workers; purchase of equipment for use in hospital clinics; the furnishing of educational films and slides; the holding of diagnostic clinics; and direct aid to patients.

The work of the organization has brought health to many, relief to more, and hope to all. It began its activities as the West Virginia Division of the American Cancer Society, but last year it was incorporated as the West Virginia Cancer Society, an affiliate of the American Cancer Society. It has been "tightened up" as an effective machine and will enter the annual campaign for memberships and funds in April as a smooth-running, efficient unit.

Three of the vital ingredients of the Society's program are education, courage, and hope. The medical profession, the hospitals, the state health authorities, the newspapers, the broadcasting companies, and civic clubs are all cooperating in the education phase of the program.

The other two ingredients must be furnished by the individual. He must have the courage to face facts, to go to his physician for an examination at the first sign of the "danger signals," and if treatment is prescribed, to follow directions religiously. And he must have hope, for without it, his courage will falter and fail. — Calvert L. Estill, Staff Correspondent for the Wheeling Intelligencer and Affiliated Ogden Newspapers.

General News

DR. H. H. SHOULDERS, AMA PRESIDENT ON PROGRAM AT 80th ANNUAL MEETING

Dr. H. H. Shoulders, of Nashville, Tennessee, president of the American Medical Association, will head a distinguished group of doctors who will appear on the program at the 80th annual meeting of the West Virginia State Medical Association, May 12-14, at Charleston. Doctor Shoulders will deliver an address Tuesday evening, May 13. The subject chosen by him is "Some Problems in the Economics of Medical Care."

United States Senator Chapman Revercomb, of Charleston, will appear on that evening's program with Doctor Shoulders and will discuss "Proposed Federal Legislation Affecting the Practice of Medicine."

Capt. George M. Lyon (MC) USNR, of Huntington, who is still in active service in the Navy, will appear on the program Wednesday afternoon, May 14. He will discuss the "Effects of Atom Bomb Radiation on the Human Body." The official Navy film in technicolor, taken at the time of the Bikini test, will be shown by Doctor Lyon during the progress of his address.

Orations in Medicine and Surgery

The oration in surgery will be presented by Dr. E. Lyle Gage, of Bluefield, on Monday afternoon, May 12. His subject is "Some Headaches Amendable to Surgery."

The oration in medicine will be presented Tuesday afternoon, May 13, by Dr. P. A. Tuckwiller, of Charleston. "Medical Perspective" is the subject chosen by him for his oration.

The scientific program has not yet been completed, but it is known that several doctors of national reputation have already accepted invitations. The names of the speakers, with the subjects of their addresses, will be printed in full in the May issue of the West Virginia Medical Journal.

Section Luncheons

Section and society luncheons will be held on the three days of the meeting. In addition, some breakfasts and dinners have been arranged, and there will be several dinners for groups who will attend the meeting in Charleston.

The scientific work committee, in charge of the scientific program, is composed of Dr. Frank J. Holroyd, Princeton, Chairman; Dr. D. A. MacGregor, Wheeling; and Dr. C. O. Post, Clarksburg.

Doctor Shoulders' address will mark his first appearance in Charleston. His specialty is surgery, and he was the first president of the Nashville Surgical Society. He was editor of the Journal of the Tennessee State Medical Association for eighteen years and served as speaker of the House of Delegates of the American Medical Association from 1937 to 1945. He was named president elect in 1945.

Entertainment Features

Entertainment of a prewar variety, but never surpassed at any prewar convention, will be provided members and guests of the State Medical Association at the meeting here in May.

The tentative program approved by the host society's committee on arrangements includes a reception on Sunday evening, May 11, with the Kanawha Auxiliary in charge; an open house after the afternoon sessions on Monday and Tuesday; a dance on Tuesday evening; and the annual banquet and ball on Wednesday evening.

Dr. W. P. Black, of Charleston, heads the local committee on arrangements. The other members are Drs. Thomas G. Reed, U. G. McClure, A. A. Wilson, R. K. Buford, R. L. Anderson, W. A. Thornhill, Jr., F. A. Clark, and T. P. Mantz.

Tournaments

A golf tournament is being arranged by a committee under the chairmanship of Dr. V. L. Peterson. The tournament will open Sunday, May 11, at the Kanawha Country Club, in Charleston.

The tennis tournament is being arranged by a tennis committee of which Dr. Randolph L. Anderson is chairman. It is likely that matches will be played beginning Sunday afternoon at the Charleston Tennis club.

All members of the State Medical Association are eligible to participate in these tournaments. Names of participants should be submitted to the proper chairmen without delay.

S. O. S.

One copy of the May 11, 1946, issue of the Journal of the American Medical Association is needed to complete the year's file in the offices of the West Virginia State Medical Association. If any member has a copy of this issue which is not needed, it is requested that the Association be notified and mailing envelope with proper postage will be sent without delay, as it is planned to send the 1946 file to the bindery the middle of April.

VA HOSPITAL NEEDS DOCTORS

An urgent need for doctors to serve in the medical division of the Veterans Administration hospital in Huntington is reported by S. R. Goodwin, the manager. He stated that there is a desperate need for doctors in all branches of medicine to serve at the hospital, but especially in the specialties of ophthalmology and otolaryngology. Salaries range from $4,149 to $11,000 per annum, based on individual training and experience.

Doctors interested in obtaining further information concerning these positions are requested to contact C. T. Schoonover, Personnel Officer, VA Hospital, 1540 Spring Valley Drive, Huntington.

WEST VIRGINIA CANCER SOCIETY REELECTS OFFICERS AT PARKERSBURG

At a meeting of the board of directors of the West Virginia Cancer Society, Inc., held at Parkersburg, March 14, following the annual meeting of the organization, Dr. Chauncey B. Wright, of Huntington, was reelected chairman for 1947. Dr. Thomas Bess, of Keyser, was reelected vice chairman, and Mr. Charles Lively, of Charleston, secretary.

Other members of the board of directors were reelected as follows: Drs. Hu C. Cyers, Philippi; Thomas L. Harris, Parkersburg; H. H. Haynes, Clarksburg; J. Ross Hunter, Charleston; Cole D. Genge, Huntington; James M. Bonnar, Fairmont; C. C. Fenton, Morgantown; Russell B. Bailey, Wheeling; W. G. J. Putschar, Charleston; Robert J. Reed, Jr., Wheeling; H. H. Boice, Parkersburg; R. O. Rogers, Bluefield; Thomas Bess, Keyser; and, Elizabeth McFetridge, Shepherdstown;, Mrs. D. W. Stubblefield, Charleston; Mrs. James D. Francis, Huntington; and Messrs. James Paull, Wellsburg; Jesse Bloch, Wheeling; Arthur B. Koontz, Charleston; J. R. Polan, Martinsburg: Robert Riley, Wheeling; Ted McDowell, Beckley: and, Sol Hyman, Huntington.

Annual Meeting

Dr. Chauncey B. Wright presided at the annual meeting, which was attended by members from various parts of the state.

The by laws were amended to provide for the publication of notice of annual meetings. The section at present provides that notices must be mailed to each member at least ten days before the date set for the meeting.

Mr. Robert W. Hudgens, director of field organization for the American Cancer Society, was introduced and discussed the work of the national organization as related to the West Virginia Cancer Society. He stressed the need for close organization in all counties, and frequent contact with the state organization. Short addresses were delivered by Mrs. John Speed Harvey, of Huntington, state commander of the Field Army, and Arthur B. Koontz, of Charleston, campaign chairman for West Virginia.

Executive Committee

At a meeting of the executive committee, held immediately preceding the annual meeting of members, the following projects were approved:

Morgantown, diagnostic clinic with a part-time field worker for that area;

Harrison County, information center in the Court House at Clarksburg;

Mercer County, information center and field worker, located at Bluefield;

Martinsburg, diagnostic clinics regularly throughout the year; and,

Chester, diagnostic clinic for Hancock County.

A project for Williamson was discussed by Mrs. E. S. Hamilton, and Dr. George W. Easley. It is proposed to use money contributed in the forthcoming campaign to purchase deep x-ray equipment for treatment of cancer patients in Mingo County. Details of the project will be worked out and presented to the committee at the next meeting.

The essay contest for college and university students in West Virginia was extended until May 15.

The following officers and members of the executive committee were reelected for another term: Dr. Russell B. Bailey, Wheeling, Chairman; Dr. Paul R. Gerhardt, Charleston, Secretary; Mr. Homer Gebhardt, Huntington, Treasurer; Mr. Arthur B. Koontz, Charleston, Campaign Chairman; Mrs. John Speed Harvey, Huntington, State Commander; Dr. J. Ross Hunter, Charleston; Dr. Frank V. Langfitt,; Clarksburg; Dr. Thomas Bess, Keyser; Dr. Thomas L. Harris, Parkersburg; Dr. R. O. Rogers, Bluefield; Mrs. E. L. Goldsborough, Shepherdstown; and, Dr. Chauncey B. Wright, Huntington.

Annual Dinner

Mr. Robert W. Hudgens, director of field organization for the American Cancer Society, was the principal speaker at the annual dinner held at the Chancellor Hotel, Friday evening, March 14. His subject was, "Progress to Date and Future Plans." Dr. Thomas Bess, of Keyser, vice chairman of the board of directors, presided as toastmaster at the banquet. Short addresses were delivered by Mr. Golden Underwood, Mayor of Parkersburg; Drs. Chauncey B. Wright, of Huntington; Athey R. Lutz, of Parkersburg; J. Ross Hunter, of Charleston; Russell B. Bailey, of Wheeling; and, Mrs. John Speed Harvey, of Huntington, state field army commander.

Workshop Session

Mrs. Harvey presided at Saturday morning's workshop session, and Dr. Paul R. Gerhardt, director of the division of cancer control of the state health department, was in charge of the community service panel. Prior to the general discussion, Doctor Gerhardt spoke on the subject of "Cancer Service to the Community."

Dr. Z. A. Johnston, of Region 2, Pennsylvania Division, American Cancer Society, was the guest speaker at Saturday's luncheon. His subject was, "Early Diagnosis of Cancer."

Post assembly conferences were in charge of Mrs. Harvey, Doctor Gerhardt, and Mr. Calvert L. Estill, publicity director for the West Virginia Cancer Society.

Mrs. W. L. Rollings, of Parkersburg, served as chairman for the local committee on arrangements.

DR. BLOSS TO REPRESENT AMA

Dr. James R. Bloss, of Huntington, has been designated by the executive committee of the board of trustees of the American Medical Association as the official representative of that organization at inauguration cremonies at Morgantown, April 26, for Dr. Irvin Stewart as the thirteenth president of West Virginia University. Doctor Bloss served as a member of the board of trustees of the AMA for ten years, his second term expiring in 1946.

INCREASED APPROPRIATIONS FOR STATE MENTAL AND TUBERCULOSIS HOSPITALS

The legislature adjourned Saturday evening, March 8, after passage of the annual appropriation bill for the biennium ending June 30, 1949.

The sum of $3,721,500 was appropriated for our mental institutions. This compares with an appropriation of $2,702,600 for the current biennium. In addition, $394,776 was reappropriated. This sum represented the unexpended balance remaining in the 1945 budget.

The increased appropriation for the care and treatment of the mentally ill will enable the superintendents of the institutions to improve the quality and increase the quantity of food served inmates. In addition, it is thought that adequate clothing can now be provided. In the past it has been necessary for the superintendent of the Weston institution to call upon the people of the state for old and discarded clothing for the inmates under his care.

The budget for the tuberculosis sanitariums was increased from $2,497,500 to $2,792,000. In addition, the sum of $318,500 was reappropriated from the 1945 unexpended balance.

The appropriation for the emergency hospitals at Fairmont and Welch was increased from $269,000 to $393,100.

The budget for the state health department was increased $37,000 per annum for the new biennium. Of this increase, $25,000 represents personal services, $10,000 current expenses, and $2,000 equipment.

Reciprocity for Service Plans

During the last week, the legislature passed a bill (S. B. 71) authorizing hospital and medical service corporations to "promote and encourage reciprocity with other licensed hospital or medical plans, both within and without this state, in expanding their services to subscribers."

Mental and TB Hospitals

Under the provisions of a bill (H. B. 47) passed early in February, the daily fee for treatment and care in mental institutions was reduced from three dollars to two dollars. Besides this bill, which also provides for a change in the method of commitment at mental institutions, the legislature earlier in the session passed H. B. 50, empowering circuit courts to order commitment of persons suffering from contagious tuberculosis who refuse to be hospitalized. The bill left unchanged the rate of one dollar per day for the care of tuberculous patients in our state institutions.

Resume

The following is a brief summary of other bills passed during the session which are of more or less interest to the doctors of West Virginia:

H. B. 13, authorizing prosecuting attorneys to order autopsies in all cases where there is reason to believe that persons have met death through unlawful acts. It will not be necessary to obtain the consent of the next of kin in cases of this nature.

H. B. 9, the so-called, "Christian Science Bill," providing that the medical practice act shall not apply to the religious tenets of any church in the ministration to the sick or suffering by mental or spiritual means, "whether gratuitiously or for compensation." The bill further provides that no practices shall be used "which may be dangerous or detrimental to life or health", and also provides that no persons shall be denied the benefits of accepted medical and surgical practices.

H. B. 51, providing for the licensing of hospitals in West Virginia. This bill is effective July 1, 1948.

H. B. 52, providing for the merger of city and county health units.

The bill, H. B. 143, relating to the licensing of practical nurses, was not reported out of committee.

The House Concurrent Resolution (H. C. R. 6), proposed by Delegate Nell W. Walker, of Fayette County, was adopted by both the House and the Senate. Under the resolution, the presiding officers of the two houses are authorized to negotiate the offer of a grant to the state of the Newton D. Baker General Hospital, at Martinsburg, when the institution is released by the Veterans Administration. Already state officials have had surveys made looking to the conversion of the hospital into a state institution for the care of epileptics and mentally deficient children.

MASS CHEST X-RAY SURVEY

The biggest mass chest X-ray survey ever conducted among the civilian population of the United States is now under way in Milwaukee, as a part of the government's ever-increasing fight against tuberculosis and other pulmonary diseases.

Every one of the more than 600,000 citizens of Milwaukee is being offered a chest check-up during the survey, conducted by the U. S. Public Health Service in cooperation with the Milwaukee Health Department and Tuberculosis Association. Such surveys to determine the incidence of disease have been carried on in other towns and cities, but this is the first time one has been undertaken in one of the country's largest metropolitan areas. The survey continues through April 15.

Mobile equipment consisting of special mass chest X-ray units, using the recently-perfected 70-millimeter automatic Fluororecord cameras, is set up throughout the city in factories, department stores, residential sections and community centers. E. R. Krumbiegel, city health commissioner, has mobilized the forces of the entire city health department to insure the success of the survey.

Every citizen who wishes an X-ray check-up gives his name and address and voluntarily steps in front of the X-ray fluoroscopic screen to be photographed. The entire procedure takes only a few moments. If the physician examining the photographic negative detects signs of tuberculosis, the person is privately notified.

Milwaukee was chosen for this pioneer work because its numerous clinics and physicians make possible a long-range follow-up program. The experience in Milwaukee will provide data for statistical medical research in the course of tuberculosis in a large American city. After completion of the Milwaukee survey, it is planned to institute a similar full-scale X-ray examination of the population of Minneapolis.

FEDERAL AND STATE LEGISLATION TO BENEFIT MENTAL DEFECTIVES

Recent legislation on mental health passed by Congress and the West Virginia Legislature, is designed to attack this disease as a public health problem, which is a realistic approach commensurate with its extent and seriousness. The prevalence of mental illness, its cost to the community in loss of productivity, expense and care, as well as the human suffering involved, places it in the public health category.

According to Dr. Robert H. Felix, Chief of the Mental Hygiene Division, U. S. Public Health Service, it has been conservatively estimated that more than eight million persons in this country are suffering from some form of mental illness. Some 600,000 are now in mental hospitals, occupying more than half the hospital beds in the United States, and every year a quarter of a million new patients are admitted.

4410 Inmates

Dr. N. H. Dyer, State Health Commissioner, is authority for the statement that, at this time, there are 4,410 patients in our mental institutions, 346 in the two homes for the aged, and 104 children in the school for mental deficients. In addition, there are 2,209 in the penal institutions, and 541 boys and girls in the industrial homes. "Many of these persons," said Doctor Dyer, "could now be useful citizens if they had been given some form of mental hygiene before it was too late, or before a crime had been committed against society.

"Until now, the stigma attached by society to a mental deficiency, or an emotional imbalance, with the consequent reluctance to admit its presence and to seek medical aid, has retarded progress in the solution of this problem. However, there is an improved attitude on the part of the public toward mental illness which has demanded legislation with which to fight this ever increasing menace."

Grants-in-Aid to States

The National Mental Health Act, recently passed by Congress, carries an appropriation of $10,000,000 to be used as grants-in-aid to states. Allocations to the states will be determined on the basis of the extent of the mental health problem, the population, and the financial need of each state. The federal government will provide two dollars for each one dollar supplied by the individual state.

The purpose of this bill is to bring direct action in three inter-related fields, (a) Increased research in nervous and mental disorders, (b) the training of mental health personnel, and (c) the improvement and expansion of community mental health services.

Under the act, the United States Public Health Service is authorized to make grants-in-aid for research directly to universities, hospitals, laboratories and other public and private institutions, and to qualified individuals; also to public and other non-profit institutions for developing and improving their training facilities. Grants may not be used, however, for the construction of buildings.

Training stipends will also be available to selected students in psychiatry, psychology, psychiatric social work, and psychiatric nursing. The number of trainees who may receive stipends is to be determined by the National Advisory Mental Health Council.

One purpose of the grants-in-aid to states is to promote improvement of mental health services in local communities. Responsibility for the development and execution of the state plans in the field of mental health is vested in the state mental health authority, which functions in the mental health program as does the state health authority in other health programs.

Bureau of Mental Health

Doctor Dyer pointed out that, under the provisions of an act passed by the legislature in 1945, the commissioner of health is designated as the mental health authority for West Virginia to administer the programs provided by the National Mental Health Act. The act further provides that the state health commissioner may establish a bureau of mental health within the state department of health, as well as clinics in certain localities where a need for such service is demonstrated.

"West Virginia has sufficient legislation to enable the state department of health to carry on an effective mental health program," said Dr. Dyer. "However, until a sufficient appropriation is made by the West Virginia Legislature, such a move cannot be considered. It is because of a limited budget that such a bureau has not heretofore been established."

STUDENT NURSE ENROLLMENT PROGRAM

An intensified student nurse enrollment program will be conducted on a nation-wide scale by the American Hospital Association throughout 1947, according to James H. Hayes, Association president.

In an effort to overcome the acute shortage of nurses, the Association plans direct aids to hospital schools of nursing with a backdrop of national publicity. The Association's Board of Trustees voted an expenditure of $10,000 for this campaign, and hospital schools of nursing and other organizations affected by the shortage of nurses are being asked to contribute financial help.

The following members of the American Hospital Association committee are directing the enrollment drive: Miss Mildred Riese, R. N., administrator of Children's Hospital of Michigan, Detroit, and second vice-president of the Association, chairman; Leo M. Lyons, director of St. Luke's Hospital, Chicago; Miss Veronica Miller, R. N., superintendent of Henrotin Hospital, Chicago; Rev. John W. Barrett of the Archdiocese of Chicago and member of the Association Board of Trustees, and Charles Lindquist, administrator of Sherman Hospital, Elgin, Ill.

Agencies invited to cooperate in the drive include the National League for Nursing Education, National Organization for Public Health Nursing, the American College of Surgeons, the American Medical Association, the American Red Cross, American Nurses Association, and various national foundations and government agencies.

NEED MUST BE SHOWN FOR CONTINUED OUT-PATIENT TREATMENT OF VETERANS

All requests for hospitalization or domiciliary care for World War veterans which do not contain information warranting immediate and emergency action should be forwarded to the Veterans Administration Regional Office in Huntington or the Sub-Regional Office in Clarksburg. These applications, commonly referred to as "P-10's", should be sent to the office having jurisdiction over the area in which the veteran resides. Dr. Leo F. Steindler, Chief Medical Officer of the Regional Office reports that heretofore many hospital applications have been forwarded to the VA Hospitals instead of to the Regional or Sub-Regional Offices.

If the application contains information warranting immediate action, the Chief Medical Officer will proceed with the determination of prima facie eligibility and authorization providing the application with hospitalization if available, however.

If an actual emergency condition exists, a Contact Representative or physician should contact the nearest VA Hospital by telegraph or telephone in order that prompt consideration may be given to admission of the veteran.

POLICY CLARIFIED

A clarification of the policy of the Veterans Administration in allowing a fee of three dollars for an authorized examination "to determine the need for hospitalization" has been made by Dr. Claude B. Smith, of Charleston, Chairman of the Veterans Board of Review, in view of adverse comment registered by some participating doctors in West Virginia.

This examination does not mean a complete physical, including history, but contemplates only a brief survey of the chief complaint to determine the need, if any, for further study and hospital care in connection with diagnosis and treatment, to be paid for at the usual rate.

The Veterans Administration has also asked that on all forms where diagnosis is requested, the physician avoid the use of the words "probable" and/or "possible." The diagnosis submitted may later prove in error, but the handling of the case is facilitated if these qualifying terms are eliminated.

Out-patient medical treatment for veterans cannot be continued on the authority of the Chief Medical Officer unless an examination made coincident with or prior to the initial treatment sets forth clinical findings justifying the need for further treatment. Such examinations will be promptly reviewed and certified as the basis for future out-patient treatment. Authorization for the examination will accompany the original authorization for treatment.

The examination should show sufficient clinical findings and diagnosis regarding the disability for which the veteran requires treatment. Dr. Steindler emphaszed the fact that this examination must be made at the time of the first treatment and immediately forwarded to the VA office so that it can be recorded as evidence in support of the veteran's service-connected disability and the type of treatment to which the veteran is entitled.

PROPOSED AMENDMENTS TO THE CONSTITUTION

The following amendments to the constitution of the West Virginia State Medical Association, sponsored by the Cabell County Medical Society and offered at the annual meeting of the House of Delegates at Huntington, May 13-15, 1946, will be submitted to the House of Delegates for final action at the 80th annual meeting in Charleston, May 12-14, 1947:

Article V.

Sec. 1. Amend the section so as to read as follows:

"The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) delegates elected by the component county societies, and (2) *ex-officio*, the President." (This section now provides that all ex-Presidents shall be members of the House of Delegates.)

Article IX.

Sec. 2. Amend the section, lines 4, 5, and 6, by striking out the words, "No Councillor shall be eligible to succeed himself after four years as Councillor, but he may be elected after two years' absence from the Council," and insert in lieu the following: "No member who has served a two-year term as Councillor shall be eligible for election or reelection to another term."

Sec. 4. At the end of the section, change the period to a semi-colon and add the following: "however, all ex-Presidents shall be eligible for election by their respective component societies as delegates to the House of Delegates."

Sec. 6. Insert new section 6 as follows: "No member shall hold more than one office in this Association at the same time, either elective or appointive." Renumber as section 7 present section 6.

DIABETES COMMITTEE TO MEET

The initial meeting of the special committee on the Study of Diabetes in West Virginia will be held Thursday, April 3, at the offices of the West Virginia State Medical Association, in the Atlas Building, at Charleston. The committee is composed of Dr. Wm. M. Sheppe, Wheeling, Chairman; and Drs. Fred Whittlesey, Morgantown; Wm. A. Thornhill, Charleston; R. C. Neale, Bluefield; and L. R. Lambert, Fairmont.

NEARLY 400 WEST VIRGINIA DENTISTS NOW PARTICIPATING IN VA PROGRAM

In order to expedite applications of veterans in West Virginia for dental treatment a new plan is now in force, according to Dr. L. F. Steindler, Chief Medical Officer of the Regional Office at Huntington.

Under the present plan, duplicate letters of authority for dental examinations and full mouth x-rays together with a blank VA form "Dental Examinations and Treatment Record," will be mailed to eligible veterans. This letter of authority instructs the veteran to present the papers to any participating dentist on a fee basis of his choice who may then make the examinations including radiographs, and upon completion, mail the completed form and mounted radiographs to the Huntington Regional Office. When the original letter of authority, dental x-rays and complete VA forms are received by the Dental Officer of the Huntington Regional Office, the authority will be vouchered and the dentist paid for services rendered.

Dr. Steindler warned that veterans must receive examination from a dentist who has been appointed by the Veterans Administration as a participating dentist on a fee basis.

Out-patient dental treatment was given to 3,080 veterans with service-connected dental disabilities in Virginia, Maryland, West Virginia, North Carolina and the Disrtict of Columbia during January under the "home town" dental care program of the Veterans Administration, according to Dr. W. D. Lanier, director of dental service for the VA's Richmond Branch Office.

The total cost of this treatment, he said, was $159,332. Applications received during the month totaled 5,353. These, plus a backlog of non-processed applications from previous months, left 11,552 cases still pending, Dr. Lanier reported. Of the total veterans treated, 1,089 were from Maryland, 546 from Virginia, 508 from West Virginia, 409 from North Carolina, and 529 from the District of Columbia.

Dr. Lanier also announced that 2161 dentists are now participating in the VA's out-patient dental program in the area served by the Richmond office. Contracts have been signed with dental societies in each of the five regional areas establishing a schedule of fees for all dentists operating under the plan. Participating dentists total 329 in the District of Columbia, 456 in Maryland; 575 in North Carolina; 390 in West Virginia; and 511 in Virginia.

Veterans who served not less than six months are entitled within one year from the date of their discharge to a dental examination and certain types of dental treatment based on the examination. After a year out of service, however, veterans are not entitled to a dental examination until a dental rating has been established for them at the regional VA office.

NEW OFFICERS IN PRESTON

Dr. J. C. Arnett, of Rowlesburg, has been elected president of the Preston County Medical Society for 1947. Dr. C. Y. Moser, of Kingwood, who has served as president during the past year, was elected secretary to succeed Doctor Arnett.

INDUSTRIAL HEALTH MEETINGS

A conclave of combined professional personnel in industrial health work over the entire nation is scheduled for the Hotel Statler, Buffalo, New York, April 26—May 4, 1947.

These meetings will represent the 32nd annual gathering of the American Association of Industrial Physicians and Surgeons; the 9th annual conference of the American Conference of Governmental Industrial Hygienists; the 8th annual meeting of the American Industrial Hygiene Association; the 5th annual conference of the American Association of Industrial Nurses, and the 4th annual meeting of the American Association of Industrial Dentists.

The sessions will be replete with many new subjects of interest, including among others, round table discussions for chemists, engineers, physicians and nurses; a symposium on new problems in the developments of industrial hygiene; clinics on fractures and traumatic surgery, including a symposium on back problems; and a panel discussion on new preventive measures in industry.

Membership in good standing in a county and state medical society or association is a prerequisite to application for membership in the Association.

Hotel reservations are being made by the Housing Bureau, Buffalo Convention and Tourist Bureau, Inc., 602 Genesee Bldg., Buffalo, N. Y.

Further details and a copy of the preliminary program may be obtained from Dr. Edward C. Holmblad, Managing Director of the American Association of Industrial Physicians and Surgeons, 28 East Jackson Blvd., Chicago 4, Ill.

1947 SCHERING AWARD

"The Clinical Use of Androgens in The Female" has been selected as the subject for the 1947 "Schering Award" competition among medical students in the United States and Canada, according to Dr. John N. McDonnell, Director of Domestic Sales and Promotion for Schering Corporation, Bloomfield, N. J. As in previous years, cash prizes of $500.00, $300.00 and $200.00 will be given for the best manuscripts received on the subject.

The "Schering Awards" are offered annually in competition to stimulate the acquisition of further knowledge of endocrinology by medical students. Many students from almost a hundred medical colleges will submit their manuscripts for this year's Schering Award Contest which closes July 31, 1947.

ANNUAL STATE HEALTH CONFERENCE

The annual State Health Conference will be held at the Stonewall Jackson Hotel in Clarksburg, May 16 and 17, instead of May 5 and 6, as originally announced. General sessions will be held Friday, May 16, morning and evening, and Saturday morning, May 17. Section meetings are scheduled for Saturday afternoon, to be followed by the annual banquet and ball that evening.

INCREASE IN VA HOSPITAL ADMISSIONS

The Veterans Administration reports a total of 458,749 admissions of veteran-patients to VA and non-VA hospitals during the calendar year 1946, an increase of 174,342 or 61.3 percent over the calendar year 1945.

During the same period, beds available for the treatment of veterans in VA hospitals increased 23 percent, from 79,450 to 97,772, and the number of hospitals increased approximately 26 percent, from 97 to 122.

The greatest number of admissions—381,619 or 83.19 percent of the total—were general medical and surgical patients. Next were neuropsychiatric patients, amounting to 11.77 percent of the total or 53,981 admissions. Smallest group was tuberculosis patients, who numbered 19,609 or 4.27 percent of the total.

A total of 3,540 non-veteran patients, less than one percent of all admissions, make up the difference in the figures. Non-veteran admissions to VA hospitals include VA employees taken ill on the job and treated before removal to civilian hospitals, veterans of allied forces, and emergency cases admitted for temporary treatment pending removal to other hospitals.

Slightly less than 50 percent of the total number of neuropsychiatric admissions, or 26,509 out of 53,981, were classified as psychotic cases. The remaining 27,472 were veterans with neuropsychiatric disorders other than psychosis, such as psychoneurotics, character and behavior disorders and organic conditions of the nervous system.

DOCTOR HOLROYD HEADS A. C. DELEGATION

Dr. Frank J. Holroyd, Secretary of the Mercer County Society, has been named chairman of the state delegation to the National Conference of County Medical Society Officers at Atlantic City, Sunday, June 8, the day preceding the opening of the annual AMA meeting in that city. In addition, he will serve as district chairman for Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia.

As state chairman, Doctor Holroyd will help work out a program for the meeting which will be attended by local society officers from all over the country.

The conference, approved by the Board of Trustees of the AMA, is being held for the purpose of "making the American Medical Association a working partner of every American physician." Ideas on socio-economic problems as they affect the general practitioner will be discussed.

Dr. A. M. Mitchell, of Terre Haute, Indiana, is chairman of the AMA committee on arrangements for the conference.

DOCTOR HEGNER HEADS BROOKE SOCIETY

Dr. H. L. Hegner, of Wellsburg, has been elected president of the Brooke County Medical Society to succeed Dr. W. T. Booher. Dr. F. L. Matson was re-elected secretary for 1947.

DOCTORS LICENSED BY PHC

The Public Health Council has announced that 21 doctors successfully passed the examination held in Charleston, January 6-8, 1947, for licensure to practice medicine in West Virginia. The following doctors were licensed by direct examination: Wm. Andrew Brown, Jr., Bluefield; Paul Chambers Clark, Huntington; John McWhorter Edmiston, Morgantown; Robert Irving Fleming, Keystone; George Floyd Grisinger, Jr., Charleston; Oliver Morton Henderson, Triadelphia; Abraham John Oliker, Elkins; Franklin George Wade, Morgantown.

The following doctors were licensed by reciprocity with other states: Earl Martin Best, Jr., Caretta; Armistead Page Booker, Caretta; Delmar Jencks Brown, Parkersburg; Marion Sanderson Brown, Parkersburg; Oliver Hooper Brundage, Parkersburg; Thomas Benjamin Dunne, Charles Town; Carl Lewis Gamba, Red Jacket; George Anderson Hardie, Huntington; Lambert Jos. Kerschgens, Steubenville, Ohio; Otis Everette Linkous, Jr., Welch; John George Oliver, Petersburg; Frank John Stashak, Jr., Sharples; Lawrence Blair Thrush, Moorefield.

AMERICAN COLLEGE OF CHEST PHYSICIANS

The 13th Annual Meeting of the American College of Chest Physicians will be held at the Ambassador Hotel in Atlantic City, June 5-8. An interesting scientific program has been planned for this meeting. Prominent speakers from other countries will present papers.

The Convocation for new Fellows and Life Members of the College will be held on Sunday, June 8. At this time certificates will be awarded to Fellows and Life Members admitted since June, 1946.

The oral and written examinations for Fellowship will be held on the first day of the meeting, June 5. Applicants for Fellowship in the College who plan to take these examinations should communicate immediately with the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

CERTIFIED BY AMERICAN BOARD OF SURGERY

Dr. Seymour W. Meyer, of Elkins, who resigned from the surgical staff of the Golden Clinic to establish private practice in his specialty in that city, has accepted appointment on the surgical staff of the Davis Memorial Hospital. In December, 1946, he was certified by the American Board of Surgery.

NATIONAL PHARMACY WEEK

The week of April 20th will be observed as National Pharmacy Week by the druggists of America. The American Pharmaceutical Association, with more than 47,000 pharmacists as members, urges the use in drug store windows of displays prepared and furnished by the American Cancer Society for use during April, which has been designated as "Cancer Control Month."

AMERICAN PUBLIC HEALTH ASSOCIATION

The 75th annual meeting of the American Public Health Association will be held in Atlantic City, October 6-10, 1947.

TUBERCULOSIS NURSE CONSULTANT APPOINTED

Miss Gladys M. Ray, Senior Assistant Nurse Officer, is on loan from the USPHS to the state health department as a nurse consultant with the bureau of tuberculosis control.

Miss Ray is a graduate of the Kahler Hospitals School of Nursing, Rochester, Minnesota. She received her B. S. degree in education, with a major in public health nursing, from the University of Minnesota. She has recently been engagd in tuberculosis research at Temple University School of Medicine in Philadelphia.

MENTAL HYGIENE COMMITTEE MEETING

A meeting of the special committee on Mental Hygiene has been called by the chairman, Dr. O. B. Biern, of Huntington, for Sunday, April 13, at Charleston. Besides Dr. Biern, the committee is composed of Drs. W. B. Rossman, O. N. Morison, A. A. Wilson, and N. H. Dyer, of Charleston; A. L. Wanner, of Wheeling; Jos. L. Knapp, of Weston; and, George D. Johnson, C. T. Taylor, and E. F. Reaser, of Huntington.

MOVES TO ALEXANDRIA

Dr. Albert E. Long, of Weston, who since 1940 has been associated with Dr. S. H. Burton in the practice of his specialty of E. E. N. T., has moved to Alexandria, Virginia, where he has offices at 804 Prince St. Besides maintaining an office there, he will serve as a member of the staff of the Episcopal Eye and Ear Hospital, in Washington, specializing in diseases of the eye.

PHYSICAL EXAMINATIONS IN CANCER CONTROL

The public education on cancer control has gone ahead more rapidly than medical facilities have been provided. The clinic appointments are now for six months in advance. Health maintenance or Cancer prevention clinics have been opened in connection with Philadelphia's five medical schools. Pittsburgh, Los Angeles, San Francisco and Detroit have also established cancer provention clinics.

Most of the clinics do not do biopsies, and only a limited amount of diagnostic x-ray work, so they only have presumptive, not positive, evidence of cancer. The examinee is then referred to his or her own private physician or to a diagnostic clinic with recommendations for biopsy, cystoscopic examination or gastrointestinal studies as the findings may indicate. This type of service is really no more or less than a screening examination designed particularly to rule out early visible cancer.

The American Medical Association and the American College of Surgeons have approved such clinics as valuable in cancer control, and an effort is being made to unify their procedures. There is a great potentiality for health education, health conservation, and service in such projects, but in order that they may be properly controlled they should all be under the vigilant supervision of the local county medical society.

This type of examination can be made by any well trained physician willing to take the trouble, or by a group of physicians with the assistance of a clinical and x-ray laboratory. Until such time as the cause of cancer is discovered, the early detection and adequate treatment by x-ray, radium and surgery offers the best means, at hand, to control malignant growths. If the public will submit to routine physical examinations with painstaking care, cancer can be routed from its present position of second greatest killer in the United States.—Augusta Webster, M. D., in Illinois Medical Journal.

FUTURE OF VD CONTROL

It is apparent that if a great majority of the infectious cases of syphilis and gonorrhea in a great majority of the communities of the nation can be discovered and brought to treatment by mass case-finding, the incidence of the venereal diseases would be reduced to a small fraction of what it is now.

We must recognize, however, that even if community-wide case-finding programs were conducted in every hamlet and city in the nation, a few cases would escape detection by existing means of diagnosis, and these few undetected cases would provide the seed from which an almost limitless number of new cases might ultimately grow again unless constant vigilance were maintained.

Some venereal disease control workers are looking ahead, speculatively at least, to a future of unknown distance when some mass technic more nearly perfectly efficient than anything yet discovered may evolve. One prospect which has been speculated upon is the mass administration of penicillin, or perhaps other as yet undiscovered antibiotics, to entire populations to eliminate even the small residue of venereal disease infections, and possibly other infections, which escape existing case-finding methods.

Syphilis has always been a challenge to physicians in the past. It remains so today. But in the future that challenge will more and more become one to test the ingenuity of the practicing physician, the health officer, and all others concerned with venereal disease control to find and bring to treatment the last infectious case.—Eugene A. Gillis, M. D., in Medical Annuals of the District of Columbia.

PILLARS OF SALT

Those who work on the latest vitamin, exhilarated by feeling that they are hunting the elixir of life, and accelerated by knowing that priority of a few weeks makes all the difference to a publication, may look on the study of water or salt as a slow job. Yet salt has a cultural and economic record going back to prehistoric times; Prout and O'Shaugnessy were making discoveries about the medical value of salt a hundred years before the vitamins were thought of; and, the correct use of salt water in therapeutics is one of the basic medical problems of today. More babies die of dehydration every day than all the patients folic acid (for example) is likely to cure in a month.—The Lancet.

Obituaries

OBITUARIES

HENRY LOVEJOY KIRKPATRICK, M. D.

Dr. Henry Lovejoy Kirkpatrick, 92, of White Sulphur Springs, died at his home in that city, March 15, 1947, after an extended illness.

Doctor Kirkpatrick was born in 1855, and graduated from Miami Medical College, Cincinnati, Ohio, in 1881. He practiced for fifty-five years in the coal fields of southeastern West Virginia, retiring from active practice in 1936.

He was for many years a member of the Greenbrier Valley Medical Society, the West Virginia State Medical Association, and the American Medical Association. He had served as a member of the Fayette County court.

Besides his widow, he is survived by one son, Chester D. Kirkpatrick, of San Diego, California; and two grandsons, David Kirkpatrick, U. S. Army, Fort Lewis, Washington, and Henry D. Kirkpatrick, of San Diego, California.

* * * *

EDWARD F. WEHNER, M. D.

Dr. Edward F. Wehner, 71, of Clarksburg, died of coronary thrombosis, at his home in that city, March 3, 1947. Doctor Wehner was the son of Peter and Anna (Shell) Wehner.

Doctor Wehner graduated from the College of Physicians and Surgeons, Baltimore, 1902, and was licensed to practice medicine in this state in 1903. He located at Clarksburg, where he practiced his specialty of surgery until his death. He was an honorary member of the Harrison County Medical Society, the West Virginia State Medical Association, and the American Medical Association.

Besides his widow, he is survived by one son, Edward Fredrick, Jr., of Clarksburg, and one daughter, Joan Frances, of Washington, D. C.

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J. EDWARD HUBBARD, M. D.

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GERIATRIC PROBLEMS

Man is a complex psycho-physical organism. His mind and body are inseparable. They should be mutually helpful. Either one can destroy the other. They are at war with one another in the sixth decade. Man has by then become a bundle of habits. In fact, his habits make up most of his life. To break up these habits, as every experienced physician knows, is a very unwise thing to do. In some cases it causes the actual death of the patient. In others it reduces him to a state of premature senility or actual dementia.

I have often observed these dire consequences follow the retirement of elderly farming people to an easy life in town at the behest of their prosperous children. The easy life proves anything but easy for these poor people. They long for the daily routine of the farm, and for the compaionship of their old cronies. They become introspective, miserable, decrepit, and often die in a year or two. California is filled with unhappy people of this kind who have moved there from the Middle West.

The war taught us that there is almost unlimited life in an old automobile if you use it properly. It also taught us that an automobile not used at all deteriorates far more rapidly than one which is constantly but reasonably used. The same is true of elderly human beings. They may have arthritis, defective vision, high blood pressure, coronary diseases, and other dreadful ailments, but they still can do a great deal of useful work, and will last a long time if their mental and physical powers are kept in proper daily use. I believe that how best to do this is the most important problem of geriatrics.—W. D. Gatch, M. D., in J. Indiana St. Med. Assi.

SYPHILIS DEATH RATE DECREASING

Studies of mortality on a nationwide basis indicate that the death rate from syphilis is slowly but steadily decreasing. Figures indicate that untreated syphilis may reduce the span of life by as much as 20 per cent. Properly treated syphilis, however, will shorten the life expectancy only about half as much.

Serologic problems in the diagnosis of syphilis and false-positive blood tests continue to be a stumbling block. The question of reinfection of the human being with Treponema pallidum may have been overemphasized in the face of rapid cures by recent methods of intensive therapy and by the use of penicillin. Advocates of any form of treatment may be too reluctant to admit the likelihood of relapse.—G. Marshall Crawford, M. D., in New England Journal of Medicine.

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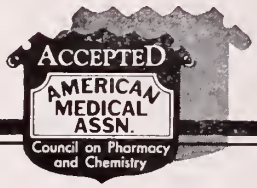

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County Society News

CABELL

At the regular monthly meeting of the Cabell County Medical Society held at the Hotel Prichard, in Huntington, March 13, Dr. H. Hudnall Ware, Professor of Obstetrics at the Medical College of Virginia, was the guest speaker. His subject was "The Diagnosis and Treatment of Ectopic Pregnancy." There was a large attendance at the meeting, including many doctors from nearby cities.

—THOMAS L. GROVE, M. D.,
Secretary.

* * * *

FAYETTE

Dr. William Bickers, of the Medical College of Virginia, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held in the Tech Cafe Building, at Montgomery, March 4, 1947. He spoke on the subject of "Disorders of Menstruation." Discussion of the paper was led by Dr. J. N. Reeves, of Charleston, and Dr. T. K. Laird, of Montgomery.

—JOE N. JARRETT, M. D.,
Secretary.

* * * *

KANAWHA

Dr. Staige D. Blackford, of Charlottesville, professor of medicine at the University of Virginia, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held in Charleston, March 11. His subject was, "Peptic Ulcer with Special Reference to Vagotomy."

—T. P. MANTZ, M. D.,
Secretary.

* * * *

MARION

Dr. C. F. Engle, of East Liberty, Pa., assistant medical director for Westinghouse and instructor in Industrial Medicine at the University of Pittsburgh, was the guest speaker at the regular monthly meeting of the Marion County Medical Society held at the Fairmont Hotel, in Fairmont, February 25. His subject was, "The Effect of Electricity on the Human Body."

Dr. Engle stated that there are no pathological findings characteristic of death from electric shock. In the treatment of electrical shock, artificial respiration is the only treatment and this must be done immediately. The speaker stressed the importance of complete relaxation and rest when consciousness is restored. With the slightest exertion at this time, the victim may again lapse into unconsciousness, sometimes with fatal results.

The paper was discussed by Drs. S. W. Parks, W. A. Welton, and J. P. Trach.

—E. D. WISE, M. D.,
Secretary.

IN CONSTIPATION OF PREGNANCY . . .

"SMOOTHAGE" MANAGEMENT

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OHIO

Dr. Robert M. Zollinger, Professor of Surgery at Ohio State University College of Medicine, Columbus, was the guest speaker at the regular monthly meeting of the Ohio County Medical Society, held at the Nurses Home of the Ohio Valley General Hospital, in Wheeling, March 14. His subject was the "Surgical Treatment of Ulcers and Cancers of the Stomach and Duodenum." The paper was discussed by Drs. Robert J. Reed, Jr., Charles D. Hershey, and J. R. Caldwell.

—C. B. BUFFINGTON, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

The regular monthly meeting of the Potomac Valley Medical Society was held at Petersburg, March 12. Dr. Joseph L. Knapp, superintendent of Weston State Hospital, was the guest speaker. His subject was, "Psychosomatic Medicine." Dr. J. H. Wolverton, Jr., the president, presided at the meeting, which was attended by sixteen members.

—E. A. COURRIER, M. D.,
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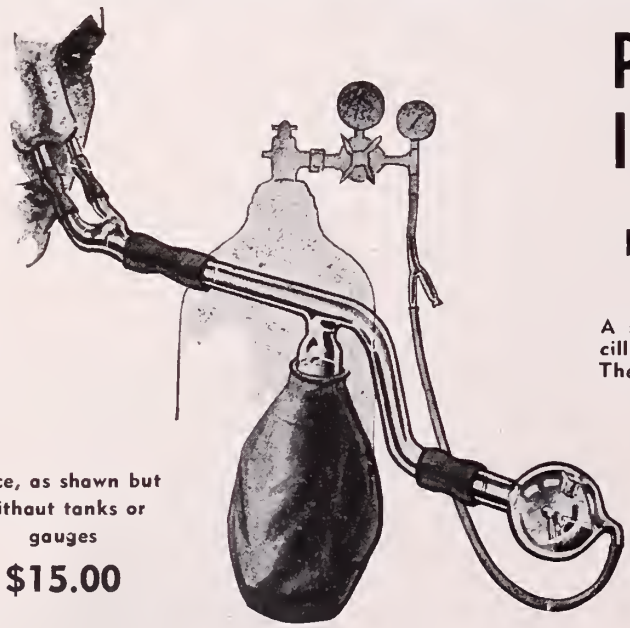

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CABELL

A luncheon meeting of the Auxiliary to the Cabell County Medical Society, observing "Doctor's Day", was held in the Crystal Room at the Frederick Hotel, at Huntington, March 11.

The place cards were in the shape of a doctor's emergency bag, with the guest's name on the outside and the program printed on the inside. The program consisted of readings and special music, and an address by Dr. J. Maurice Trimmer, pastor of the Fifth Avenue Baptist Church, who presented most interestingly and entertainingly, "A Tribute to the Doctors."

At a business meeting following the program, it was ordered that a substantial donation be given to the American Red Cross in the name of the doctors.

The nominating committee, composed of Mrs. E. J. Humphrey, Mrs. Stuart Van Metre, and Mrs. J. L. Hutchison, submitted the following names of officers for the ensuing year:

President, Mrs. Raymond Curry; president elect, Mrs. Russell Cook; vice president, Mrs. Raymond Bailey; secretary, Mrs. James R. Brown; and treasurer, Mrs. Robert Barrett.

—MRS. RAYMOND BAILEY,
Secretary.

EXHIBITS AT ANNUAL MEETING

The Woman's Auxiliary to the West Virginia State Medical Association and The Kanawha Auxiliary will have separate exhibit booths in the WCHS auditorium during the annual meeting in Charleston, May 12-14. The activities of the various county organizations will be featured in the state booth. Although plans have not yet been definitely made, it is probable that the Kanawha Auxiliary will serve light refreshments at its booth throughout the three-day meeting.

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THE EVALUATION OF THIOURACIL IN HYPERTHYROIDISM*

By GEORGE P. HEFFNER, M. D., and ROBERT K. BUFORD, M. D., Charleston, West Va.

Since 1943, when Astwood[1,2] made his original observations on the nature of thiouracil and its use in hyperthyroidism, the literature on the use of this drug has become voluminous. Palmer[3] gives an excellent account of the supposed physiological action of thiouracil in blocking the combination of iodine with inactive thyroid hormone in the thyroid gland itself, thus producing a deficiency of active iodine-containing thyroid hormone in the blood. This lowered active blood hormone level produces a secondary stimulation of the production of thyrotropic hormone by the pituitary gland which in turn produces enlargement, vascularity and friability of the thyroid gland itself. Astwood, Sullivan, Bissel and Tyslowitz,[4] also the MacKenzies,[12] previously had pointed out the similar action of certain sulfonamides and of thiourea upon thyroid gland function in the rat. Williams[5] noted changes in the hypophysis of rats following thiouracil administration, and found that the number of eosinophils was reduced and replaced by vacuolated basophils. This also is the picture seen following thyroidectomy. Raveno[6] found at autopsy that the pituitary gland of humans who had received thiouracil simulated these findings.

Astwood[2] noted that a considerable latent period was to be expected before the basal metabolic rate would fall after starting the drug. He also stated that even though in all cases the basal metabolic rate dropped after this latent period it rose again after thiouracil was stopped. Astwood[7] later cited a case treated for nine months with thiouracil, the basal metabolic rate having dropped to normal. He stopped the drug and all signs and symptoms remained normal for four months which was as long as the patient was followed at the time of the report. He reported also four cases out of sixty in which drug fever developed, after which the drug was stopped and restarted without a second rise in temperature. As noted below, this does not agree with our experience with drug fever due to thiouracil nor does it agree with a number of subsequent reports by Astwood and others. As stated by Astwood,[7] in Graves' disease there is little hormone stored in the gland, hence the action of thiouracil in reducing the metabolic rate is rapid whereas in toxic nodular goiter and in iodine treated Graves' disease[9] (toxic diffuse goiter) there is considerable active hormone stored in the gland and the action of the drug in lowering the basal metabolic rate is slower. However, Boyd and Connell,[18] from a series of nine patients, believe that the previous use of Lugol's solution may not delay the response to thiouracil at all.

Lahey, Bartels, Warren and Meissner[10] reported gradual disappearance of all hyperthyroid manifestations except the eye signs after prolonged administration of thiouracil but stated that permanent remission after withdrawal seemed unlikely. Of their 190 patients treated with the

*From the Department of Medicine and the Department of Surgery of the Charleston General Hospital, Charleston, West Virginia, and the private practices of the authors.

NOTE: The thiouracil used for this two and one-half year study was supplied by the Lederle Research Laboratory, Pearl River, New York, under the trade name "Deracil".

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drug none failed to respond if the medication was continued sufficiently long. They advised against operating before the basal metabolic rate reached zero. These authors noted also that the technical procedure of the operation was made considerably more easy if Lugol's solution was given along with thiouracil during the last two weeks of the drug's administration and continued alone for one week before surgery was performed.

The dosage of thiouracil as determined by Astwood,[2] Williams,[8] and Williams, Kay, and Jandorf (cited by Williams and Clute[11]) was 0.6 Gm. daily, given in six doses of 0.1 Gm. every four hours. They pointed out that to increase the dose above this level would only increase the rate of destruction of the drug by the body tissues and would not increase the blood level above 3 milligrams per hundred cubic centimeters. Lahey and others[10] used 0.6 Gm. daily but gave it in three doses of 0.2 Gm. every eight hours. It was pointed out also that the smaller doses produced less toxic reactions. After the basal metabolism drops to zero the dosage is reduced to 0.1 Gm. every twelve hours for maintenance of the basal metabolism at that level. This can be carried on indefinitely in the average case. If the larger dose is continued, myxedema can be produced.

Williams and Clute[11] noted that their patients received symptomatic improvement within twenty-four to forty-eight hours after starting the drug but attributed this to psychological effect and sedation. Many authors[15] have reported this rapid subjective response to the drug and in our series the average time for symptomatic improvement to begin was from five to seven days. The average time required for Williams' and Clute's patients to attain a normal basal metabolic rate was five weeks if the initial rate was high, and three weeks if low. This is somewhat at variance with other studies. In Williams' and Clute's patients, those who had had iodine within one month before starting the thiouracil showed no response to the drug for three weeks. However, thiouracil given with iodine produced a drop in the basal metabolism at the same rate as did thiouracil alone. In their series of 72 cases there were thirteen untoward reactions and three of these were severe enough to warrant discontinuance of the drug.

Since the eye signs do not respond well to thiouracil, as noted by Lahey and others,[10] and since the exophthalmos in Graves' disease apparently is stimulated by the increased thyrotropic hormone in thiouracil-treated cases and actually may thereby become worse under treatment, Astwood[1] suggests the use of thyroid hormone in small doses along with the thiouracil to reduce exophthalmos. This practice apparently has been quite successful. However, other authors[15,21] have not found the exophthalmos to increase under thiouracil therapy.

Toxic reactions to the drug occupy a most prominent place in the thiouracil literature. Bartels and Blizzard[13] in a review of 405 cases, found 78 toxic reactions and in their own series of 196 cases reported 23 reactions. Of the series of 405 cases, 7.4 per cent had white blood count changes of which about one-half were leukopenia without granulocytopenia; 3 per cent had drug fever and 4.4 per cent had skin eruptions. Other toxic reactions mentioned were edema, swollen salivary glands, jaundice, thrombocytopenia with purpura, dental infections with gingivitis and a group of minor reactions consisting of headache, malaise, myalgia, anorexia, arthralgia, nausea, vomiting, choking sensation, burning of the eyes, chilliness, dry cough, generalized adenopathy, diarrhea, and sweating. Blood counts were taken every ten to fourteen days in the Bartels and Blizzard series but Astwood[7] states that if agranulocytosis is to develop it will do so acutely in twelve to twenty-four hours and that therefore the best means of ascertaining the onset of agranulocytosis is from the patient's symptomatology. On this basis blood counts at one or two week intervals thus would be of little value. Van Winkle and others,[20] in reviewing a series of 5,745 cases in which thiouracil was used, found an incidence of granulocytopenia of 2.5 per cent, of drug fever 2.7 per cent, and of skin reactions 3.3 per cent.

McHardy and Brown[14] stress the importance of looking for hepatitis in thiouracilized patients but note that its occurrence is infrequent. They noted also, after adequate observation, that some of their patients failed to respond to thiouracil.

The question of whether or not thiouracil can be given over a period of months and then stopped while the patient continues permanently in a state of remission ("medical thyroidectomy" with thiouracil) has been discussed at variance by many. McGavack and others[15] found that if thiouracil were used less than two months, symptoms invariably returned after stopping the drug, but that at the end of two months' use the disease was successfully combatted in 5 out of 78 cases. However, attempts to discontinue therapy in some individuals after fifteen months of treatment led to an exacerbation of the disease process. Thompson and Thompson[16] believe that in some people, after the basal metabolism has been

maintained at zero for six months or more, the drug can be omitted without recrudescence of symptoms or rise in the basal metabolic rate.

Raveno[17] noted that in patients with recurrent hyperthyroidism after surgery, sensitivity to the drug is marked and the response to treatment prompt.

Bartels[19] emphasizes the importance of using the drug in the preoperative preparation of the patient with thyrocardiac disease. He stresses the fact that patients should not be referred for operation until a normal or nearly normal basal metabolic rate has been established, likewise that speed during operation is no longer a factor since postoperative reactions do not occur and extremely large glands can be removed in one stage operations.

Eaton[21] noted that in cases of thyrotoxicosis during pregnancy the administration of thiouracil did not affect the pregnancy, was beneficial to the mother, but apparently produced thyroid enlargement in the fetus in one case in which the mother received the drug until confinement.

Because of the toxic reactions from the use of thiouracil, Astwood[26] more recently has investigated more than 300 thiourea derivatives and reported on two compounds (six ethyl-thiouracil and six propyl-thiouracil) as being about five times as effective as thiouracil and producing practically no toxic effects. Studies on the use of propyl-thiouracil in hyperthyroidism now are being done at our clinic and a report on this newer drug, comparing it with thiouracil, will appear subsequently.

Thirty-six patients are included in this report. Nineteen of these were given thiouracil with the idea of keeping them on medical treatment indefinitely, either because of some complicating condition which contraindicated operation or because they preferred to be treated medically and refused operation (table 1). Ten of the patients had diffuse toxic goiter and nine had nodular toxic goiter The average age of these nineteen patients was 49.8 years with extremes of 24 and 70 years. As will be seen, a goodly number of these finally came to surgery while others still are under treatment after two years. The patients treated medically were given initial basal metabolism tests, care being taken that the patient was actually in a basal state, and in about one-half of these an initial blood cholesterol test also was done. A complete history was taken and a complete physical examination, including urinalysis, made in the case of each patient, the diagnosis of hyperthyroidism being confirmed clinically before any laboratory studies were done. Many, but not all, had initial blood counts and the blood picture in these cases was followed every two weeks. In others this procedure was not carried out. The basal metabolic rate was checked within three weeks after the beginning of treatment in ten patients and thereafter at intervals of two to four weeks in all. Also, at two to four week intervals the patient was examined

TABLE I

SUMMARY OF NINETEEN PATIENTS TREATED MEDICALLY WITH THIOURACIL

Patient	Age (Yrs.)	Initial B. M. R.	Lowest B. M. R.	Time for B. M. R. to Drop to Normal (Months)	Initial Pulse Rate	Final Pulse Rate	Toxic Reactions
O. P. R.	36	+22	— 6	2½	132	80	None
J. L.	63	+29	+ 6	4½	112	100 D	Questionable skin rosh
E. P. M.	62	+47	+ 8	4	128	84	Questionable urticaria
H. F. G.	51	+37	N. D.	N. D.	108	N. D.	Fever
W. H. F.	53	+30	+ 4	3¾	112	84 D	None
H. H.	48	+68	— 8	9½	160	108	None
A. S.	24	+35	+ 5	4	128	90	None
P. L.	48	+25	— 6	1¾	95	72 D	None
A. P.	51	+37	—13	2½	140	72 D	Fever and questionoble skin rosh
A. T.	58	+30	— 1	2¼	96	72	None
E. B.	63	+45	— 1	½	105	84	Hemorrhage into gland
T. B.	48	+46	+13	½	100	80	None
B. M.	26	+51	— 8	3½	132	124	None
N. M.	70	+82	+ 5	6	100	72	None
M. B.	62	+42	+33	N. R.	78	90	None
K. N.	46	+79	+ 9	6	120	80	None
M. W.	58	+57	+ 7	9½	130	50 D	None
K. D.	28	+84	+38	N. R.	95	88	None
T. P.	52	+69	+12	3	87	68	None

Key: N.D.—Not Done. N.R.—No Response. D—Digitolized.

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clinically and in many the blood cholesterol was followed.

In the cases that came to surgery the patient was followed for two weeks after operation in order to note any reactions, and then seen at least one time thereafter for a checkup. Each patient was started on an initial dose of 0.6 Gm. of thiouracil daily, given in six equal doses four hours apart. This dosage was continued until the basal metabolic rate approached normal, then reduced to 0.4 Gm. daily until the basal metabolic rate reached normal, after which a maintenance dose of 0.2 Gm. daily was given (0.1 Gm. every twelve hours). If the basal metabolic rate rose and the patient's symptoms returned on this maintenance dose, it was increased to 0.3 or even 0.4 Gm. daily. The total time that the patients took the drug without any rest period was from twenty-two days to thirteen months with an average of five and two-tenths months.

The remaining seventeen patients in the series of 36 (table 2) were given initial examinations and laboratory work as were those treated medically, but were given thiouracil and iodine together for periods of two to three weeks in preparation for surgery which was then performed and the postoperative course noted carefully. All of the glands removed were examined grossly and microscopically by a competent pathologist and the pathologic diagnosis was entered on the record. The dosage of thiouracil for these patients was 0.6 Gm. daily given in doses of 0.2 Gm. three times a day until it was discontinued before surgery. Several patients received more of the drug than others but the above mentioned dose was almost universally used in these cases.

The method of giving thiouracil and iodine together in the preoperative preparation of the patient, while satisfactory, probably is not as much so as that of administering the thiouracil alone until the basal metabolic rate approaches normal then discontinuing the drug and substituting iodine for ten to fourteen days in order to decrease the vascularity and friability of the thyroid gland, thus making the technical part of the operation simpler. In our subsequent studies on propyl-thiouracil this latter method of preoperative preparation is being used satisfactorily.

RESULTS OF INVESTIGATION

In compiling the following figures only averages are used. The results obtained by averaging the figures were compared with the results obtained by the geometric mean and the two agreed so closely that only the averages were thought to be necessary for this report.

In the medically treated cases the average duration of symptoms before therapy was started was 13.9 months and the average basal metabolic rate before starting therapy with thiouracil was plus 46.7. The average basal metabolic rate after being on the drug for three weeks was plus 26.3 in the ten patients examined at this time, and the average basal metabolic rate at the end of treatment was plus 5.8. In this series there were three persons who at first apparently did not respond satisfactorily to the drug after moderately prolonged administration. In one of these the cooperation was so poor that she took her medication only sporadically and should not

TABLE II

SUMMARY OF SEVENTEEN PATIENTS TREATED PREOPERATIVELY WITH THIOURACIL AND IODINE

Patient	Age (Yrs.)	Initial B. M. R.	B. M. R. Preoperatively	Initial Pulse Rate	Final Pulse Rate Preoperatively	Pulse Rate 1 Week Postoperatively	Reaction to Surgery	Toxic Reactions
H. B.	32	+53	+29	100	84	70	Sl.	None
M. H.	56	+15	+15	75	75	72	Sl.	None
J. R.	37	N. D.	+ 6	92	70	85	Sl.	None
G. W.	26	+33	+13	100	85	100	Mod.	None
L. A.	46	+69	+22	110	80	85	Mod.	None
I. F.	40	+62	+26	90	90	80	Marked	None
M. T.	21	+38	— 7	120	80	80	Mod.	None
L. T.	30	+49	+26	100	90	80	Mod.	None
D. W.	32	+61	+35	120	85	90	Sl.	None
L. N.	30	+43	+21	100	86	80	Mod.	None
V. S.	39	+53	+12	84	84	72	Sl.	None
G. T.	48	+65	+25	84	85	74	Mod.	None
G. L. T.	40	+74	+ 6	100	72	74	Mod.	None
Y. E.	18	+52	+25	115	80	80	Mod.	None
E. B.	53	+60	+36	100	72	70	Mod.	None
L. G.	24	+32	+12	120	86	80	Sl.	None
S. A.	67	+38	+15	85	78	76	Mod.	None

Key: N.D.—Not Done. Sl.—Slight. Mod.—Moderate.

therefore be classed as a failure; another had been on iodine for ten days before starting thiouracil. She continued taking thiouracil for two months but seemed to respond better to the iodine than to the thiouracil during the two periods of observation. She became disheartened with thiouracil therapy and voluntarily sought surgery which was done after she had been off thiouracil and on iodine for thirty-three days. Her basal metabolic rate before surgery was plus 35 and she had a postoperative temperature of 102 F. with a pulse rate of 110 for two days. Pathologic examination in her case showed a hyperactive thyroid mostly in the colloid phase but containing part columnar cells with occasional papillary elevations. The third patient, who at first seemed to show no response to therapy, was a middle-aged colored woman with a basal metabolic rate of plus 57, complicated by hypertensive and coronary heart disease with congestive failure, and latent syphilis. This patient, after months of thiouracil in doses of 0.5 to 0.6 Gm. daily, finally responded clinically with a drop in her basal metabolic rate to about normal (plus 8), but has to be maintained on a dose of 0.4 Gm. daily to keep her metabolic rate stationary. Thus, of the three "failures" only one — the second patient described — actually was a failure in the sense of responding, and perhaps if the drug could have been continued longer in her case she too might have responded satisfactorily.

One other patient, although her basal metabolic rate dropped from plus 51 to minus 8 in three months' time, still complained of nervousness and of her heart pounding, and had to be operated upon before her symptoms subsided.

Although most of the literature states that the response of the patient's basal metabolic rate to thiouracil therapy is prompt, in our series of cases the basal metabolic rate was slow in dropping to normal. In those who responded to the drug and continued it until the basal metabolic rate reached a normal figure (15 patients), the average time for the metabolic rate to reach normal was 15.7 weeks. If the initial basal metabolic rate was between plus 20 and plus 40 the average time for dropping was fourteen weeks and, strangely enough, if the patients had been taking iodine from three days to seven months before starting thiouracil, the average time for the basal metabolic rate to drop to normal was lowest of all, namely nine weeks (six cases).

A rise in blood cholesterol occurred in nine out of twelve patients treated, with an average rise of 69.8 milligrams per hundred cubic centimeters for the group. The three other patients showed a drop in cholesterol, averaging 24 milligrams per hundred cubic centimeters.

Cardiac symptoms were not affected at all in two patients and were completely relieved in only one. However, there was relief of cardiac arrhythmias in two patients, one of whom had extrasystoles, the other auricular fibrillation which recurred later and remained until after surgery. Also, in one other patient the electrocardiogram which originally showed changes compatible with coronary heart disease returned to normal after thiouracil treatment. In another patient with auricular fibrillation, normal rhythm did not develop on thiouracil treatment although the response of the basal metabolic rate was excellent. Her fibrillation disappeared shortly after thyroidectomy, however.

Abnormal eye signs were recorded in fourteen patients. Photophobia was relieved in two, lid lag in three, defects of convergence in one, exophthalmos in two (partially), globe lag in two, lid edema in one, and widened palpebral fissure in one. Of fourteen cases with eye signs there was relief or partial relief in seven and no relief at all in seven.

The average pulse rate which before treatment was 114 dropped to 84 after therapy had been continued long enough to drop the basal metabolic rate to within normal limits. This is an average drop of 30 per minute. The average drop in pulse pressure was only 15 millimeters of mercury.

In six patients the thyroid gland was moderately enlarged after treatment; in four, slightly enlarged; in six, it did not change in size; in three the results were undetermined.

Symptomatic improvement occurred to some degree, however, in all patients. This improvement occurred chiefly with relation to the symptoms of nervousness and tremors. These symptoms improved in eighteen of the nineteen cases. There was weight gain in thirteen cases.

Three patients were continued on the drug for long intervals, then therapy was discontinued and the patient watched for recurrence of symptoms and a rise in the basal metabolic rate. One patient who had had x-ray therapy one year previously for toxic goiter, had a recurrence of hyperthyroidism and an initial basal metabolic rate of plus 68. She was kept on the drug continuously for eleven months with a drop in her basal metabolic rate to minus 8. The drug was discontinued

and, due to poor cooperation she was seen only four times during the next year. However, at the end of one year she had no symptoms of hyperthyroidism, her pulse rate was 100, her blood pressure 150 systolic and 96 diastolic, she was free from tremors, and there had been no weight loss. A basal metabolism test, done under poor conditions after the patient had experienced a sleepless night, was plus 97 which was thought to be grossly inaccurate.

Another patient was seen first in congestive failure with auricular fibrillation and with a basal metabolic rate of plus 37. After being on thiouracil for six and one-half months, her basal metabolic rate was minus 13. She had no signs of congestive failure, her fibrillation had stopped and she complained of being cold, sluggish and of losing hair. The medication was stopped. In three months her symptoms of myxedema had disappeared and symptoms of hyperthyroidism were returning. Thiouracil was again started and continued for two and one-half months and again discontinued with a second recrudescence of symptoms in two months. At this time her auricular fibrillation returned and did not disappear again on thiouracil treatment. The thiouracil was then restarted and continued for two and one-half months with relief of symptoms, when there appeared an erythema nodosum and several abscessed teeth. The latter were extracted. During these complications the patient, on her own volition, stopped the drug and did not return for examination for five months during which time her symptoms of hyperthyroidism recurred and her basal metabolic rate rose to plus 33. Again she was started on thiouracil, and hospitalized for surgery. A severe drug fever then developed, and thiouracil had to be stopped. Also, an ulcerating skin lesion developed after iodine was started and the Lugol's solution had to be discontinued. X-ray therapy was instituted with marked relief of symptoms. Four months after x-ray therapy was given the patient was markedly improved and her heart, which had been fibrillating, requiring digitalis, suddenly became regular. She underwent total thyroidectomy four and one-half months after x-ray treatment was instituted and experienced no untoward reaction to the operation; however, three months later she had symptoms of myxedema with a basal metabolic rate of minus 31. Her symptoms were relieved by the administration of thyroid substance although she still presents exophthalmos and much globe lag.

The third and last patient in this particular group was on thiouracil for eight months before the drug was stopped and the patient observed with respect to a permanent remission. Four months after discontinuance of thiouracil she had recurrence of hyperthyroid symptoms with a basal metabolic rate of plus 22. Thiouracil was again given, with relief of symptoms, for eight months; the drug was then discontinued once more, with recurrence of hyperthyroid symptoms in three months. The patient then was started on propyl-thiouracil and at present is under observation as to the effects of this drug. Thus, of the three patients on whom a remission was attempted by prolonged administration of the drug only one had an apparent symptomatic cure.

Of the nineteen cases studied, eleven finally came to operation. Of these, the pathologic report of the thyroid gland in five cases was *colloid phase*, in five, *intermediate stage*, and in one, *hyperactive gland*. After thiouracil was stopped, all patients received iodine for at least one week or longer before operation. Patients who were operated upon almost invariably did better than those who received thiouracil without operation. The average pulse after operation was slightly lower (eighty-one per minute), surgery relieved two cases of auricular fibrillation where thiouracil had failed to do so permanently, and operation relieved some eye signs which failed to respond to thiouracil.

Toxic reactions to the drug in these nineteen patients were few. The white blood count was checked regularly in twelve cases, in four of which there was an initial drop in either the absolute neutrophil count or the total white count in from two to six weeks, with a quick rise to normal thereafter even though the drug was continued. In one case the absolute neutrophil count dropped from 8,160 to 2,665 with a subsequent rise. In eight cases there was no drop in the white count and in no case was there an alarming drop in the number of white cells or any agranulocytosis. In two cases drug fever developed, recurring after stopping the drug for a time and restarting it as suggested by Astwood.[7] In both of these cases thiouracil had to be permanently discontinued. One patient complained of transient weakness which disappeared even though thiouracil was continued (her white blood count being normal), and severe urticaria developed in another shortly after treatment was started but this did not recur when thiouracil was restarted later; this patient continued taking the drug thereafter for four months and finally underwent thyroidectomy with no untoward reactions. Another patient, whose gland became

quite large after starting therapy, had an acute hemorrhage into the gland which required immediate surgery. Thus, out of this medically treated series, all of whom received thiouracil over long periods of time (some of them intermittently for over two years), there were three (15.8 per cent) toxic reactions that actually could be attributed to the effects of the drug, none of which was of serious consequence.

Two deaths occurred among these nineteen patients during a two and one-half year period. One patient who had hypertensive cardiovascular disease died suddenly of a cerebral hemorrhage after thiouracil had been stopped and iodine medication had been started preparatory to operation. Permission for autopsy was granted and post mortem examination showed the previously mentioned pathologic change, also a very hyperactive appearing thyroid gland. The patient had been on thiouracil for a period of six months previous to preparation for surgery, and an ulcerating skin rash developed when Lugol's solution was started and thiouracil stopped – as happened also in the case just previously described. This peculiar, punctuate, ulcerating and scar forming skin rash was noted in both instances after thiouracil had been given over long periods of time, then discontinued, and Lugol's solution started. Whether it is a sensitivity to iodine or thiouracil, or both, is not determined.

Another patient died about one month after operation from an apparent paralysis of the vocal cords. She was admitted to the hospital in acute respiratory distress (having been hoarse following the operation) and despite tracheotomy, expired.

Of the eleven patients who came to operation only one showed a particularly hyperactive gland pathologically. This patient had been receiving thiouracil for four month previous to operation and had been on iodine and off thiouracil for fourteen days before surgery was attempted. Five patients showed a medium amount of activity in their thyroid glands and all of these had received iodine for at least one week previous to surgery. Five cases showed the gland in the colloid phase and of these four had received iodine for at least one week preoperatively and one had received no iodine.

Seventeen patients were given thiouracil for preoperative preparation only. Of this group the average age was 37.6 years (ranging from eighteen to sixty-seven years of age) and the average duration of their symptoms was eight months. The average initial basal metabolic rate was plus 50, the average initial blood cholesterol was 185 milligrams per hundred cubic centimeters, and the average basal metabolic rate just before operation was plus 20 (ranging from plus 36 to minus 7). It should be remembered that all of these patients received iodine concomitantly with thiouracil. Seven patients had received iodine from three to sixteen days before thiouracil was given, but usually for about one week only. In this group the average basal metabolic rate within two weeks after beginning thiouracil therapy was plus 20 while in those who had received no previous iodine the average basal metabolic rate in the same interim was plus 23. The difference in these figures is not considered significant.

The average pulse rate before therapy with thiouracil was instituted was 100 and before operation the average had dropped to 81. Following surgery the average pulse rate was 79. Also, the averages for the initial blood pressures was 137 systolic and 74 diastolic, while after the preoperative treatment these figures were 129 systolic and 81 diastolic, the average drop in pulse pressure being 17 points. Our patients were given the drug from five to twenty-four days (average thirteen days) before surgery. As stated previously the dosage in this group was 0.6 Gm. daily, given in three doses of 0.2 Gm. each. Two patients of the seventeen had coronary heart disease complicating the thyrotoxicosis. Fifteen patients had diffuse toxic goiter and two had nodular toxic goiter, according to the classification discussed by Sanders and Strain.[9]

There was not one toxic reaction in this group. The postoperative course was fairly smooth in every case and postoperative temperatures ranged from 100 F. to 104 F. (average 100.3 F). The postoperative temperature rise is somewhat higher than one usually would expect after thiouracil preoperative preparation and may be due to the fact that in many of the patients the drug was not given long enough preoperatively to produce a drop in the basal metabolic rate to normal. In one patient surgery was performed after the basal metabolic rate had dropped from plus 60 to plus 36 although the pulse rate had dropped from 100 to 72, and the blood pressure from 162 systolic and 90 diastolic to 140 systolic and 90 diastolic. In this patient the postoperative temperature was 101.4 F., the pulse 120, and respiration 28, with an elevation of all three above the normal level for a total of five days. She had received thiouracil for only seven days before surgery was performed. Perhaps if she had received thiouracil for a longer period of

time in order to permit her basal metabolic rate to drop to a normal figure, her postoperative reaction would have been less pronounced.

Pathologically, the glands removed from these patients showed inactivity in five cases, a medium amount of activity in seven cases, and hyperactivity in five cases. In the five cases in which no evidence of hyperthyroidism was demonstrated pathologically, thiouracil had been continued until the day before operation in three cases and discontinued one week previous to operation in two cases. In the cases of the five patients whose glands showed pathological evidence of hyperactivity, thiouracil had been continued until the day before operation in all but one. In the seven cases in which a medium amount of activity was shown pathologically, the drug had been administered until the day before surgery when it was discontinued.

SUMMARY

Thirty-six cases of hyperthyroidism in which the patients were treated with thiouracil are reviewed. Of these, nineteen patients were treated over long periods of time with the drug alone because the patient had either some complication contraindicating surgery or because he refused operation. Some of these patients have been followed for a period of two and one-half years and have been on the drug intermittently most of that time. The remaining seventeen patients were prepared for surgery by the use of thiouracil and iodine in combination.

Of the nineteen patients treated over prolonged periods without having surgery definitely in mind, all responded to a great degree to thiouracil if the drug was given over a long enough period of time. The average period for achieving a drop in the basal metabolic rate to a normal level was about four months. The two patients who did not respond to thiouracil did not receive the drug over a sufficiently long period of time to warrant any conclusions. The fact that iodine had been administered to some patients before thiouracil was started did not slow the rate of response to the latter drug. In fact, in the cases of those patients who received iodine previous to receiving thiouracil the basal metabolic rate dropped to normal slightly faster on the average than it did in those cases in which no initial iodine had been administered. Response was slightly faster when the initial basal metabolic rate was less than 40.

While there was almost universal response in the symptoms of nervousness and sleeplessness, the cardiac symptoms often were not much relieved. Auricular fibrillation was not relieved in two cases in which rhythms reverted to normal some time after surgery. The pulse rate (although it was slower after therapy) often did not drop to within normal limits. The blood pressure responded to an even lesser degree. However, weight gain on therapy was the rule.

Three patients, after prolonged administration of thiouracil, were taken off the drug to see whether recrudescence would occur. In two cases the remission after stopping thiouracil was short lived. In the third case there was symptomatic remission for more than one year although the blood pressure and pulse were above normal.

Surgery invariably produced greater symptomatic relief and more normal changes in cardiac symptoms, pulse and blood pressure than did the use of thiouracil alone.

Of the total group of thirty-six patients studied, the incidence of toxic reaction was only 8.3 per cent in no case of which was it of serious nature, although the drug had to be stopped in all cases. However, of the medically treated group of patients who received thiouracil over much longer periods of time (in some cases for over two years) the incidence of toxic reaction was 15.8 per cent. In fact, all of the toxic reactions occurred in this latter group.

Seventeen patients were given thiouracil with iodine for preoperative preparation only. In this group there were no toxic reactions. The number of postoperative febrile reactions was moderately high, probably due to the fact that the thiouracil often was not given over a sufficient period of time to allow the basal metabolic rate to drop to within normal limits.

CONCLUSIONS

From these studies it is thought that:

1. Thiouracil is extremely useful in the preoperative preparation of the patient although the technical procedure is slightly more difficult due to the vascularity and friability of the gland. There probably is a more rapid response to therapy and the gland is less hyperactive if iodine is given with the thiouracil.

2. Thiouracil will not relieve all the signs and symptoms of hyperthyroidism and should not supplant surgery in any case that is a good surgical risk.

3. In those individuals with hyperthyroidism who have complicating diseases which make them poor surgical risks, the use of thiouracil

often is life-saving and always should be used. The drug can be given safely for over two years and probably can be continued indefinitely in these patients. However, the patient must be observed carefully, at least at one month intervals, while undergoing this form of treatment, and observation for toxic reaction must not be relaxed.

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TREATMENT OF ACUTE BULBAR POLIOMYELITIS

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Much has been written and spoken in recent years about poliomyelitis, yet a review of the literature reveals very little discussion in regard to the management of the acutely ill patient with severe bulbar involvement. The writer had the privilege in October, 1946, of spending a few days in Minneapolis and St. Paul where the epidemic was so violent and where a high percentage of the cases were of the bulbar type. At the University Hospital at Minneapolis over 80 persons with bulbar poliomyelitis had ben admitted for treatment. By common consent the majority of such cases were admitted to the University Hospital and the treatment evolved (which is discussed in this paper) was based upon experience gained from a large number of cases.

The bulbar poliomyelitis was not confined to the young child but attacked a large percentage of persons in older age groups. This fact instilled deep fear in the adults of that area which was noticeable to the visitor.

The resort to surgery in acute bulbar poliomyelitis may seem to many physicians too rash a procedure but in doing an early tracheotomy in bulbar cases often lies the difference between life and death. Rapid advances are being made in our knowledge of poliomyelitis and the work done at Minneapolis is another step forward in the understanding of this disease. Perhaps our patients of the past have not died of the disease *per se* but solely of mechanical causes which prevented a proper oxygen supply from reaching the nerve cells of the brain. The anoxia, the result of paralysis of the throat, rather than an overwhelming infection by the virus, may be proved to be the cause of death.

The upper spinal involvement and that of the motor cells of many cranial nerves cause grave concern on the part of the patient as well as the physician, for fear of further spread of the disease. Often one sees patients with involvement of the motor nuclei of one or more cranial nerves who do not appear seriously ill. However alarming the condition may be the outcome seldom is fatal except in cases in which the ninth and tenth cranial nerves are involved. The disease with involvement of these two nerves heretofore has defied satisfactory treatment. The accumulation of secretion in the pharynx obstructing the upper respiratory tract, or the reflex closure of the

glottis, or paralysis of the vocal cords, has produced rapid cyanosis and death.

At the University Hospital it was found that by resorting to tracheotomy before cyanosis develops, then removing the accumulated secretion by suction, and administering oxygen in about 20 to 50 per cent concentration or oxygen-helium in combination ,the anoxia was prevented and many of the patients recovered. Proper moisture was added to the oxygen mixture to render the secretion less tenacious and to lessen its amount. Constant attention to details by someone trained in the use of oxygen is absolutely essential in tracheotomized patients.

In one of the large hospitals visited by the writer while in Minneapolis, the statement was made by a staff member that tracheotomy is not necessary if someone familiar with the use of the suction apparatus is in constant attendance in the acute bulbar cases. The impression gained was that many of us cannot differentiate between the upper spinal type with involvement of one or more cranial nerves and presenting symptoms of dyspnea, facial weakness, nasal speech and dysphagia, and that of acute bulbar involvement, in which the laryngeal obstruction and difficulty in swallowing, with increasing accumulation of mucus in the throat, are due to invasion of the nuclei of the ninth and tenth nerves and in which rapid rise in temperature and extreme toxicity are pronounced signs. In the first instance the victim usually lives; in the second he usually expires. This lack of understanding of the differential diagnosis probably will prevail and retard the acceptance of the surgical approach in the treatment of this condition.

The criteria for treatment by tracheotomy at the University of Minnesota Hospital are a history of acute onset of bulbar symptoms with increased toxicity, progression of symptoms as manifested by high fever, mental changes, beginning aphonia, progressive difficulty in swallowing, and accumulation of mucus.

One member of the house staff commented that when cyanosis develops it is too late; another stated that a flutter of the glottis or beginning aphonia was warning enough.

When the involvement extends from the cranial nerve cells to the respiratory center the prognosis is poor. The early signs of this progression are the beginning failure of respiration, with irregular rhythm and depth, and difficulty in maintaining speech with shallowness of breathing and long intervals between inspirations. Apnea soon follows and then, finally, breathing ceases. Other patients may present beginning circulatory collapse with rapid irregular pulse and a dusky red appearance. The blood pressure will be extremely low and found impossible of improvement by usual medication. Autopsy reveals extensive involvement of the reticular substance of the medulla, destroying the autonomic centers for control of respiration and circulation. Many patients, however, do not progress to such an extreme degree and when given adequate oxygen early through the tracheal tube with proper attention to the mechanics of respiration and to the proper use of the respirator, their survival is practically an accomplished fact, and in a few days they will regain satisfactory control of both respiration and circulation. It must be emphasized, however, that cyanosis cannot be long, if at all, tolerated.

Few of us in West Virginia see many severe bulbar cases and those that are seen usually very quickly go on to cyanosis and death. The patient with an ascending paralysis presents an alarming and distressing picture and may die if not properly treated. To make a differential diagnosis in the acutely ill patient with polio in which there is involvement of the upper spinal nerves as well as evidence of facial weakness or other cranial nerve invasion with beginning invasion of the ninth and tenth nerves, close observation is required, and such patients should be in an institution as soon as possible where proper facilities are available. Too often parents wait too long before calling a physician, and too often when called, the physician finds it difficult to convince them of the urgency of the case, with resultant delay of many precious hours. The writer has encountered a sufficient number of patients with delayed symptoms (as long as twelve days) of alarming nature to convince him of the advisability of admitting all suspected cases of poliomyelitis to a hospital.

CONCLUSIONS

By resorting to tracheotomy early, when signs of involvement of the ninth and tenth cranial nerves are present in poliomyelitis and by judicious use of oxygen and suction through the tracheal tube, many lives may be saved.

Not all such patients will be cured by this or any other procedure since the patient's resistance to the disease may be very low and a fatal outcome the inevitable result. However, it would seem rational to resort to tracheotomy in the severe cases even when seen rather late in the belief that by this means the best possible chance for recovery is offered.

PEDIATRIC ALLERGY*

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Two phases of the subject of allergy that are of considerable importance to the pediatrician, the allergist, and the general practitioner are food allergy and its various manifestations, and infection in pediatric allergy.

All of us know that food allergy is transmitted from parent to child according to the laws of Mendelian dominance and that the manifestations of food hypersensitivity are first seen in early infancy. Its most common form is seen, perhaps, in persons with asthma, when the ingestion of a food, whether it be milk, egg, or wheat, is followed by a severe and definite attack. In those cases in which the attack appears after an interval of fifteen minutes to one-half hour following ingestion, we find positive skin reactions and skin sensitizing antibodies in the blood stream. However, in cases in which there is an interval of one to twenty-four hours after the ingestion of the food in question, the skin reaction is negative and circulating antibodies are not found. Yet, even though the mechanism in both instances is different, there is no question as to the child being allergic to the particular food. This delayed type of mechanism is quite common in allergy, particularly in the gastrointestinal allergies and in the dermatological conditions such as eczema and urticaria. The importance of food sensitization in the early years cannot be overemphasized. Together with bacterial allergy it comprises the entire cause of asthma in infants in the first few years of life.

I should like to emphasize the frequency of asthma, particularly in infancy. It has been observed that 70 per cent of the children who had their first attack in the first three years of life had food as a basic etiological factor and likewise that 35 per cent of the children who had their first attack in the first three years of life were definitely infective cases. It is unfortunate that the diagnosis of asthma frequently is missed because of the readiness to make the diagnosis of asthmatic bronchitis. I believe this is a deplorable situation because it emphasizes the bronchitis and it is very apt not to emphasize the asthmatic possibilities of the attack. The frequency with which allergy manifests itself in the earliest years is understood readily when we appreciate the fact that the child represents the best example we have in allergy of food sensitivity and it is in children primarily that we see the violent food manifestations making their appearance.

The gastrointestinal forms of allergy seen in infancy are chiefly colic, pyloric spasms, and cyclic vomiting. In almost all of these the identification of cause followed by its subsequent removal produces a remission of symptoms which occur again only when that food is reintroduced into the diet. The next clinical syndrome most frequently encountered which is so often ascribed to food allergy is that of infantile eczema. I should like to give you my own impression with the full knowledge that I have not as yet all the answers to this very difficult and plaguing problem.

According to the classic conception the allergic forms of dermatitis carry with them a positive family history of allergy, are characterized chiefly by their flexural distribution, and, unfortunately, have had the name 'neurodermatitis' applied to them. If all of the textbooks were correct, the diagnosis and treatment of these cases would be a relatively simple procedure. We are told that all one has to do is to perform either direct skin tests, if the patient has enough normal skin, or to use indirect skin testing, making use of the phenomenon of Prausnitz and Kustner. If any of you have had the opportunity of seeing large numbers of these children you must have been struck immediately with the fact that successful therapy based purely on skin tests was striking by its absence. Before continuing with the discussion of the syndrome of eczema may I digress for a moment to discuss the question of skin testing on which the whole field of allergy depends for its diagnosis. It is uniformly agreed and accepted that the immediate type of reactor has positive skin tests and that these can be transferred to a normal skin. It has not been sufficiently stressed, however, that regardless of whether the technic of direct testing or indirect testing is used, many exceptions will occur.

It has been demonstrated that the direct test may be positive and have no clinical significance. Likewise that it may be negative and yet the child may be sensitive to the foods in question. Also, the indirect test may be markedly positive and yet have no clinical significance or it may be negative and yet the food in question may precipitate violent symptoms of asthma. The point of this entire work may be summed up briefly by saying that no food reaction, whether it be direct or indirect, can be assumed to have clinical sig-

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nificance unless the child has been brought into contact with the antigen and as a result of that contact has had precipitated the clinical syndrome which you happen to be studying. In other words, the clinical test of contact is, in my opinion, the only one by which we may be definitely guided. This does not mean that one should not do skin tests. It does mean, however, that one should be very careful about accepting positive reactions without further verification.

To return to our problem of eczema. When we examine eczematous children we are struck by the fact that a great many of them fail to give any type of skin reaction, direct or indirect. The other group gives positive skin reactions. It is at this point that I differ with the accepted opinions in allergy. If you recall, the pathology of neurodermatitis has been said to involve the blood vessels of the superficial layers of the skin, whereas the pathology of a contact dermatitis involves the deeper layers and is characterized by vesicle formation. This pathologic differentiation, in my mind, never has been as clear in practice as it is in theory, and I have had great difficulty in getting pathologists, on examining sections, to commit themselves without a concomitant clinical history. My reason for emphasizing this difficulty is that I believe that the skin testing of these eczemas carries certain elements of doubt which should be present in the mind of the investigator at the time of his treatment of the patient.

It has been my experience that in many cases of eczema having positive skin reactions, the skin reactions are of far more importance in the child's future asthma than the eczema for which he is consulting the physician. I should like to recall to your attention the fact that fully 40 per cent of our asthmatic children have had a positive history of eczema during infancy, and it is for this future asthmatic state which lies ahead of the eczematous child that these skin reactions have real meaning. That does not mean that foods are not causative agents in the child's eczema. I believe that frequently they are. I believe also that positive skin tests occasionally will coincide with these clinical food sensitivities. It is likewise true that in certain cases in which the skin test is negative the child still may prove to be sensitive to one or more foods. Thus are seen the practical difficulties that confront the allergist in his attempts to find the causative agents underlying the condition.

What I have said so far applies only to the simple case of eczema which is seen in the early months of infancy, and which frequently is caused by the addition of some food to the child's diet. However, as the child grows we have a more severe and intractable condition which, in my experience, is not due entirely to foods, and frequently starts as a food allergy, but later has grafted upon it the very important factor of bacterial allergy.

As I see it, there is a secondary involvement on a pyogenic basis which establishes in the child's skin and system a marked degree of bacterial hypersentitivity. This may well be complicated by a focus from within, either in the paranasal sinuses or in the tonsils, and any attempt to treat these cases without complete cognizance of this factor of bacterial allergy must lead to a relatively disappointing result. We therefore have to consider these patients not as problems of food hypersensitivity only but as patients who may well be sensitive to contactants in their environment as well as fungi, and, most important of all, bacteria. It is a most startling experience, in treating one of these children who has had superimposed on his original food allergy a marked element of bacterial involvement in the form of impetiginous lesions, to administer penicillin in doses of 10,000 units every three hours. The brilliant result in many of these cases serves to place us in a position of being able to control the bacterial factor immediately, and enables us to attack whatever problems of food allergy there may exist in very short order.

I believe that those cases in which there are no food allergies whatever (incidentally, these are not few in number) respond to penicillin very rapidly and very effectively unless they are of very long standing and have massive foci of infection. These latter cases, in my experience, do not respond to anything except to surgical removal of the infected focus. The treatment of eczema, as I see it today, has come far beyond the consideration of food only, and must be considered in the larger aspects of the picture. In fact, I believe that what we are dealing with in many of these cases is an infectious dermatosis which has been implanted on a basic food hypersensitivity.

I should like now to consider the broader aspects of bacterial allergy in relationship to the child's asthma. I am sure you are well acquainted with the fact that the asthmatic child is apt to start as a food sensitive case which in time undergoes spontaneous involution, followed perhaps by a free period when, suddenly, the inhalant substances assume a major etiological role. The importance of dust, animal emanations,

and pollens is well known to all of you and without their proper administration wherever indicated no satisfactory therapeutic result can be achieved. There is, however, in my observation a much less general conception of the importance of bacterial allergy in the causation of asthma in children. It is not at all uncommon for a diagnosis of asthmatic bronchitis to be made in the case of a child who is having his first symptoms of asthma. I would like to interject a plea for the abandonment of that particular diagnosis because, from my observation, it reassures the parent and lulls him into the belief that his child is suffering from bronchitis, only to have him rudely awakened later when the condition begins to appear as frank asthma; also, because I feel that in children the diagnosis of asthmatic bronchitis should be subjected to a screening process whereby a half dozen or more important inhalants or food tests are done to determine whether or not the child has any potential sensitivities. Certainly, in cases in which there is a positive family history of allergy there should be no hesitancy in assuming the child to be a potential asthmatic unless proved otherwise.

Very briefly, the child who is sensitive to foods or inhalants and has a complicating bacterial allergy cannot be successfully treated if the treatment is directed only to one of these individual factors. The treatment of food sensitiveness is largely one of avoidance. Either the milk sensitive patients are capable of taking evaporated milk or (if this proves to be unsatisfactory) they must be put on a milk substitute. The most common of the latter are soy bean preparations which, in my experience have been very effectively used as milk substitutes. Egg sensitivity is treated entirely by avoidance and the same type of therapy is applied in cases of wheat and other food sensitivities. Under no circumstances should an attempt be made to hyposensitize a child to a food to which he reacts. I know that this is at variance with what frequently appears in the literature, but my reason for this is that 98 per cent of children spontaneously lose their food sensitivity by the time they are five years old, so actually no therapy is indicated. Spontaneous involution of food sensitivity is followed by a period of freedom which may run from several months to several years, only to be succeeded by the occurrence of inhalant sensitization. It is for this reason that we see our pollen sensitivities occurring in the older child (6 or 7 years of age) although they may occur at an earlier age.

Treatment as it concerns the inhalant substances is removal whenever possible. However, in the case of cat or dog sensitivity in which the contact may be more than an occasional one, it is perfectly feasible and practical to give immunizing injections against animal danders, just as we do for the dusts and pollens. In testing the inhalants it is customary to test sensitivity to the various seed preparations such as those of cottonseed, kapok and flaxseed. A note of warning must be sounded against testing with these antigens in concentrations which might be too high thus causing a constitutional reaction. These seed extracts have grown in importance during the last few years due to the fact that their oils have been widely used as vegetable fats, a situation which has caused considerable difficulty to the patient who is sensitive to them. The importance of pollen sensitivity cannot be stressed too much. There is, however, one point which I should like to reiterate, and that is that children can be sensitive to the pollens and have their sensitivity limited entirely to the bronchial mucous membrane without any symptoms of hay fever, and it is imperative that such children receive pollen therapy in order to remain well.

Both the food and the inhalant type of case may have a complicating element of bacterial allergy. The diagnosis of bacterial allergy has been questioned by several individuals because of the difficulty in establishing bacterial hypersensitivity by skin tests. It is unquestionably true that we have no accurate form of skin testing for bacterial hypersensitivity. We have seen patients who gave marked reactions to various bacteria which were totally unrelated to their case and have seen also the reverse of this picture. The complete lack of diagnostic technic has raised a certain measure of doubt as to the etiology of infection in these allergic cases. It is true that we arrive at our diagnosis of bacterial allergy largely by the process of elimination, but when we examine the clinical history of these cases, and see that their acute exacerbations always are accompanied by evidence of upper respiratory infection, and frequently febrile reaction, it is hard to believe that an upper respiratory infection can occupy a position of only secondary importance as some observers suppose. In my opinion, bacterial allergy constitutes one of the most important factors in the entire field of allergy, and there is no syndrome, whether it be asthma, urticaria, or a gastrointestinal allergy, that cannot be simulated and produced by bacterial hypersensitivity.

Infections of the upper part of the respiratory tract are the most common causes of asthma in children. Irrespective of whether the other factors in the case are food or inhalants, such infections can and do contribute enormously to the incidence of asthmatic attacks, and they consti-

tute one of our great problems in treating these cases. I believe that an important part of the treatment in these children lies in the early and complete removal of infected tonsils and adenoids. There has been a great deal of discussion as to the value of tonsillectomy. Without taking into consideration the other allergic aspects of the case, it has only a limited value. But the great difficulty lies not in the operation, but in the indifferent manner in which it is unfortunately too frequently, performed. Fully 50 per cent of the children we see in practice and in the clinic, who have had previous tonsillectomies, have recurrences, and these completely negate the value of the original operation. Once it has been established that the infected foci have been completely removed, then vaccine therapy can be instituted. Personally, I prefer autogenous vaccines but care must be used in these allergic children to prevent overdosage and the precipitation of an asthmatic attack. The ability of these vaccines in very minute doses to produce an attack of asthma or urticaria, or even eczema, and the fact that one can do so repeatedly with the same dosage followed by the same interval of time between injection and response, are other important bits of evidence which clinch the diagnosis of bacterial allergy. In the symptomatic treatment of a mild attack the use of expectorants such as iodides, ammonium chloride, and ephedrine by mouth, or epinephrine in a 1:100 dilution used as an oral spray, will be found to be of benefit.

I should like, however, to close this discussion with a few remarks concerning status asthmaticus in children. These children, when first seen, are so severely ill that one wonders frequently where they are going to obtain strength enough to draw their next breath. They are anxious and frequently by the time we see them have become adrenalin-fast. The history of most of these cases is one that has its onset with an acute upper respiratory infection followed by severe, increasing asthma. Status asthmaticus in the child fortunately differs in one respect from that in the adult in that it usually is of much shorter duration, lasting as a rule, only two or three days in contrast to its duration in the adult where it can exist for weeks. Physical examination very frequently is unsatisfactory because of the number of rales, and x-ray of the chest frequently reveals areas of bronchial pneumonia.

The first step in the relief of this condition is to evacuate the bowels by the use of enemas and follow this by a saline catharsis to take pressure off the diaphragm. The second step in therapy lies in relieving any cyanosis present by the use of oxygen by nasal catheter, or, in a small infant, by the use of an oxygen tent. The use of mustard plasters to the chest is of value if the child has no mustard sensitivity and the prompt use of penicillin or the sulfonamides is indicated. At the same time, in order to relieve any anxiety, codeine, together with aminophyllin in the form of a rectal suppository, is of help. Epinephrine should be used by injection as indicated. Occasionally one sees these children having paroxysms of coughing in which they are entirely unable to raise any mucus and are completely exhausting themselves. The use of syrup of ipecac is of great value as it results in the act of emesis which frequently brings up large mucous plugs and promptly relieves the child's difficulty. In cases in which there is any suspicion of bronchial infection, the sulfonamides or penicillin should be started immediately. Using these measures, I am happy to say that I have never seen a child die in status asthmaticus.

REACTIONS TO INSECT BITES

There is a widespread belief that blood-sucking insects attack some people much more readily than others. Almost every entomologist has heard stories beginning "When my wife and I were sleeping in a room in . . ." and recounting how the mosquitoes (or bugs, or fleas) ignored one person while the other was covered with bites. It is true that some insect parasites exhibit sufficient preferences to restrict them to one host species; but until recently there has been no scientific evidence for distinction between individuals.

It seems that mosquitoes do in fact prefer to bite some people, though probably none are entirely avoided. A more common explanation of the unequal sufferings of two sleeping partners is a difference in their reactions to the insect bites. It is easily demonstrable that some people are unaffected by bites which cause large weals, erythema, and pruritus in others.

Mellanby has lately demonstrated that people usually pass through different stages of sensitivity if they continue to be exposed to bites of certain mosquitoes. When a person unused to the mosquito is bitten there is no immediate objective effect, but a severe reaction about 24 hours later. When his experience is more extensive an immediate transitory weal is also observed. If the person is still further exposed to bites the secondary reaction on the day after the bite does not occur, and a final state may be reached in which no reaction whatever is experienced.

It is the delayed reaction experienced in the early stages of exposure that causes great discomfort and may persist for several days, waxing and waning in intensity. The immediate reaction causes some itching, but all symptoms disappear within two hours.

These results were obtained with the mosquitoes Aedes aegypti and Anopheles maculipennis atroparvus. The sensitisation and immunity seemed to be quite specific, so that a man may be in stage 1 in regard to anopheles and stage 2 for aedes.—The Lancet.

THE MANAGEMENT OF UTERINE BLEEDING*

By ROBERT L. FAULKNER, M. D.,**
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To any gynecologist, at least, the subject of uterine bleeding is an important one and worthy of frequent review. It is to be said first of all that the fundamental cause of bleeding from the uterus, except in some ulcerative eroding lesions, is not known. Smooth, healthy submucous myomas, for instance, do not bleed but frequently the uterus involved bleeds from some point nearby. From another myomatous uterus, comparable anatomically, there is no bleeding. In the great group of functional bleeders, in many of whom endocrine factors seem to play a part, there is at present little correlation possible in many instances between anatomy (histological or otherwise) and physiology. It seems entirely possible that the mechanics of vascular control of bleeding from the uterus may not be exerted wholly on the spiral arterioles of the endometrium in spite of the long continued emphasis upon this area.

There is something queer about the inner zone of the myometrium as evidenced by vascular injections of the surgically removed uterus.[1] In the uterus with good control of its bleeding there is a wide uninjectable zone about the uterine cavity right up to the time of menstruation. At menstruation there is an orderly general relaxation of vessels within this area; in abnormal bleeding there is a spotty, irregular disorderly admission of the injection compounds to the uterine cavity. A prediction may be made that if ever we have a specific drug to control uterine hemorrhage it is as apt to be some substance other than a hormone as it is to be one of the endocrine drugs so widely used at the present time.

An admission of ignorance concerning the fundamentals of uterine bleeding seems to me to be healthy. It is, to say the least, a great leveling influence and helps one to evaluate the many pet treatments for functional bleeding promoted by colleagues or, much more frequently, by detail men from drug firms.

Well recognized in other gynecological disorders, particularly in dysmenorrhea, the possible importance of psychosomatic factors must not be lost sight of in uterine bleeding. There is the impression that with tension states which women so frequently exhibit nowadays many cases of uterine bleeding are more severe and are harder to cure by ordinary means than they used to be. There is plenty of evidence to prove that unusual strain and stress may affect the menstrual flow. Ordinarily we hear about the young girl who goes to college and fails to menstruate for five or six months. Just as frequent, but not as often seen by the physician, is the girl who for some months after a change of living habits menstruates more profusely than usual. When exaggerated, such a simple disorder may be the abnormal uterine bleeding the physician has to deal with. Psychic influences must work through the vasomotor nerve apparatus of the uterus.

A composite chart of the usual constitutional and local causes for uterine bleeding was made by Hendriksen.[2] The man who understands this chart knows quite a lot about gynecology. It shows the place of functional bleeding in the scheme of things where a woman with a normal endometrium may bleed almost as often as one with hyperplasia. But, of course, it is these women whose organs seem normal for whom we feel we should be able to do so much more and with greater ease. The chart illustrates also the fact that as physicians our main task is everlastingly to make sure by every known means at our disposal that a given abnormal bleeding does not have a serious organic cause. Failure to make pelvic examinations before medical treatment may allow important lesions to escape detection, or at least greatly delay their detection. Similarly, in all older women the failure to perform curettage of the uterine cavity before the institution of medical or radiation treatment leads to catastrophe.

In connection with the group of functional bleeders, the conventional hormones involved are well known to all of you. There is good evidence that endocrine factors are involved in bleeding, especially in women who are anovulatory. As a matter of fact, it is not too wrong to think of most bleeding as *anovulatory bleeding*. Probably pituitary in origin· we hear most about the ovarian hormones indirectly involved, because they are better known and available commercially. The correct name in the United States for follicular hormone is estrogen. Progesterone has been adopted as the designation of corpus luteum hormone. The pituitary hormones, known as gonadotropes, are divided into two classes: (1) follicle stimulating, (2) corpus luteum stimulating. Neither of these is available commercially. In addition, it must not be forgotten that

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during pregnancy there are potent anterior pituitary-like substances excreted in the urine and derived from the chorionic epithelium of the placenta. These are available commercially, manufactured either from the urine or the placenta, and though expensive, are urged upon us for trial in all kinds of conditions. Their place in the treatment of functional bleeding is not yet clear, though used in some of the more complicated programs of hormone therapy. Commonly, these substances are known as A P L hormones because their action, although like that of hormones from the anterior pituitary, is different experimentally in animals.

The practical management of uterine bleeding varies a good deal with the age of the patient. Bleeding at the time of puberty, though fortunately not too common, may be a very distressing and even dangerous condition. No diagnosis can be made nor should it be attempted without a pelvic examination. This, of course, in the youngster may be done rectally without discomfort if managed correctly. Particularly with any signs of sexual precocity the fornices should be thoroughly palpated for ovarian enlargement. In the early days of granulosal cell tumor many children underwent an exploratory operation and these tumors, the size of a bean, were described. I am sure now that since the first enthusiasm has worn off, we count only those we can feel at least for surgical surposes. But it goes without saying that before instituting medical treatment a complete physical and pelvic examination should be done. Curettage is not so important at this age unless it be for the control of serious hemorrhage. Pubertal bleeding usually is functional, of the anovulatory type, and may be connected with incomplete maturation of the ovary. Many gynecologists believe that frank, marked hyperplasia is less common at these ages than are the lesser degrees of anovulatory endometrium.

Endocrine therapy, as with uterine bleeding in general, is in a state of confusion, each doctor practically having his own program. However, in these immature individuals antuitrin-S or synapoidin may work very well in controlling the bleeding. Testosterone is contraindicated in any appreciable dosage at this time of life. The heavy estrogen dosages used in bleeding at a later age may not be wise therapy, although there is no absolute proof that harmful ovarian effects occur. Low basal metabolism should be corrected by thyroid substance. This item occasionally has seemed of more importance therapeutically at puberty than in later life in so far as uterine bleeding is concerned. Young girls also frequently present faults of diet, exercise, and general living which must be thoroughly gone into.

In the rare desperate bleeders of this age group, curettage must be done. Fortunately, almost always this will control the situation for at least four or five months during which time the girl may correct her own troubles. This simple operation may be repeated as necessary.

During the age of child bearing uterine bleeding is much more likely to have an organic cause than during puberty. It is estimated that about 3 per cent of bleeding during the fourth decade arises from malignant disease. To detect cancer that is not outwardly obvious all of these patients should be curetted in addition to thorough pelvic examination before any course of medical treatment, hormonal or otherwise, is started. Curettage itself will cure about 20 per cent. In those functional bleeders who have to be treated, a program popularized by Karnaky[3] may be tried. This consists of heavy doses of estrogen usually diethylstilbestrol. Ten to fifteen mg., or more, of this material is given daily until bleeding lessens, after which the drug is gradually withdrawn. The general idea in back of this therapy is to keep the patient's economy at a high estrogen level, or well above, what is for her as an individual, a somewhat lower "bleeding" level. The simplicity and economy of this scheme make it an attractive one and when preceded invariably by proper investigation of the cause of bleeding, no serious objections can be registered.

The use of the corpus luteum hormone progesterone, which rationally would seem indicated in anovulatory bleeding has, generally speaking, been disappointing. Its expense for most patients, even if not prohibitive, is troublesome in that if it does no good they question the physician's judgment in prescribing such expensive medication. Recent oral preparations are said to be potent and there is the impression that if the endometrium does not show a definite hyperplasia, or one of the lesser anovulatory patterns, they may do some good. Their general use is in 10 mg. doses daily with or without a preliminary "priming" with diethylstilbestrol.

For the occasional heavy bleeding episode the androgenic hormone, testosterone proprionate, long has been used, though vigorously condemned by some gynecologists. So far as one can see there is no objection to its use except that a masculinizing overdosage may occur if carelessly administered. The general rule in the adult woman is that dosage under 200 mg. in any one month will rarely produce changes. Used only

for the occasional severe episode of bleeding this dosage need never even be approached.

In the few instances in young child bearing women in which functional bleeding, after repeated curettage and medical and endocrine therapy, is so severe or persistent that radical treatment becomes necessary, clean cut hysterectomy with preservation of ovarian function is preferable to the use of x-ray or radium castration. There is nothing more pathetic than the woman who has had ovarian function ablated by radiation in her early or even late thirties. Victim of a prolonged, sometimes partial menopause, she usually is fit only for the psychiatrist. Frequently, there is the further handicap that in more or less well guided attempts to make her more comfortable prolonged dosing with estrogens is carried out with recurrence of bleeding. It is true that the honest gynecologist feels helpless and foolish in occasionally having to remove a uterus in which the pathologist can find no abnormality.[4] However, this is the price one has to pay for our really indifferent knowledge of this disease. The test of individual honesty lies in the efforts preliminary to hysterectomy, that were made to control the bleeding and therefore maintain good health. If reasonable and thorough conservative treatment is carried out, it would seem that no surgeon can be seriously indicted for occasional hysterectomy in the case of a normal looking but bleeding uterus during the time of life when the average woman is most active and naturally jealous of her good health.

After the age of forty-five uterine bleeding of one sort or another, though more frequent, is easier to handle. In these modern times the first question to ask a patient who is bleeding is, "What drugs are you taking?" Frequently, the whole treatment consists of stopping a prolonged or heavy estrogen dosage which the woman may be on, often enough only by the advice of some friend or relative. Even if on no estrogen therapy, there are a few women close to the menopause with very moderate increases in flow who require no treatment except pelvic examination and assurance that everything is all right. But no chances are to be taken with these older women who really bleed excessively or irregularly. The chance of malignancy is 60 per cent. Curettage should be done, and promptly. There is no place, after age forty-five, for preliminary prolonged hormone therapy. Only if the curettings and pelvic examination are normal, is any favorite program of hormone therapy indicted.

There is increasing talk of missing the diagnosis of carcinoma even by curettage. The reason for this would seem to be poor or careless methods of carrying out this simple operation. It seems to me there is no place for the office suction curette in the search for carcinoma. The patient should have an anesthetic and a good job of covering the whole surface of the uterine cavity and cervical canal with the curette should be done. In addition, a good practice is to introduce into the uterine cavity a small ovum forceps or sponge stick and to try to grasp any polyps or polypoid masses which may easily fail to be dislodged by the ordinary curette. It does not seem that the diagnosis of carcinoma should be missed if curettage is taken seriously.

The pathological interpretation of the curetted material is very important. There are frequent bizarre hyperplasias at this time of life. Occasionally there is one that cannot be definitely interpreted as benign or malignant. It is necessary that the attending doctor be fully aware of the facts in a given case and be guided accordingly. Recurettage and re-examination of the endometrium after some weeks or months in the occasional case, if everything is not in order, is a perfectly justifiable course of action, and is preferable to impulsive quick sacrifice of the uterus.

In the ordinary case in which the patient is over forty-five, the endometrium benign, the bleeding severe, and curettage does not cure, more extensive treatment may well be carried out. There is no further concern as to child bearing and the menstrual function itself is at least a nuisance and, because disordered, a source of danger. The choice has to be made between surgical treatment and radiation therapy. This choice depends somewhat upon one's facilities and skill and, to a lesser degree in some instances, upon the patient's wishes in the matter. Hysterectomy, of course, will cure the disease, and if there are associated lesions with a surgical indication this may of necessity be the treatment of choice. However, it is at this age in the woman with a normal abdomen and pelvis that radiation finds its greatest field of usefulness. Radium, when available and used correctly, is in some respects preferable because preliminary curettage attendant to its use is automatic, its use is more convenient for the patient, and finally it allows both the diagnosis and treatment in most hospitals to remain under the supervision of the same individual.

The patient with myomas who bleeds excessively at or near the menopause presents a special problem regarding selection for radiation therapy. There are properly so many rules surround-

ing the selection of myomas for radiation that one must be very sure of thorough examination and diagnosis before starting this form of treatment.

Carcinoma of the fundus when discovered is, of course, appropriately treated. There is much interest displayed in radiation therapy preliminary to operation as advocated by Scheffey[5] and Miller,[6] but to date this adjunct treatment has not become generally routine. At least carcinomas to be radiated must be selected with the same care that we try to use in other conditions.

SUMMARY

Bleeding from the uterus is a frequent and sometimes serious gynecological problem. Thorough physical, blood, and pelvic examinations are imperative in a patient of any age who is bleeding from the uterus, before medical or endocrine therapy is started. All older patients who are to be so treated or treated by x-ray or radium should have thorough curettage with expert assay of the curetted material before treatment is instituted. Minor degrees of bleeding after adequate diagnosis may require no treatment.

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AMERICAN MEDICINE OUT IN FRONT

It is obvious not only that the trend of medicine through the centuries has been toward preventive measures but that, in the westward march of civilization, America has become, to borrow from Tennyson, the "heir of all the ages in the foremost files of time."

Obvious it is, too, with the warring nations so lacking in facilities for medical education, medical practice and medical research, the world will look to America to supply deficiencies in these fields. America, therefore, occupies a commanding place in medicine today, and in the fulfillment of its obligations because of this, the capacity of our people for organized effort will prove a tremendous asset. This capacity for working together accounts for the development of the great medical schools, hospitals, medical centers and research institutions in this country.

The pharmaceutical manufacturers have employed their facilities for medical research in the development of therapeutic preparations and then have enlisted the collaboration of the medical profession in trial applications of these preparations before offering them as products of known clinical efficacy. This has been a highly significant development of modern medicine and justifies the faith that American medicine can and will lead the way to greater achievements in the future.—Donald C. Balfour, M. D., in Journal-Lancet.

DIET IN RHEUMATOID ARTHRITIS

There is no specific diet that can be prescribed for rheumatoid arthritis, although we know certan facts which help in planning a balanced diet. Dr. Ralph Pemberton has shown that many cases have low sugar tolerance; therefore, the diet should contain the minimum amount of sweets and carbohydrates. Whole grains and brown sugar are better than processed flour and white sugar. These patients invariably lack vitamin C, and they require three times as much as a normal person to maintain their proper blood level. They are frequently deficient in vitamin A; and the red, shiny tongues we used to call the arthritic tongue have proved to be due to vitamin V deficiency. Such tongues show a marked change when vitamin B is supplied. In regard to vitamin D, I quote the Primer of Arthritis of the Committee of the American Rheumatism Association: "Concerning Vitamin D, the Council on Pharmacy and Chemistry of the A. M. A. has never accepted such preparations for the treatment of arthritis."

The diet, therefore, should be well-balanced with protein, carbohydrates, and fats and should be rich in vitamins and minerals. In my experience extra vitamins are indicated, as most of these cases have been deficient for a long time, and their tissues change slowly even with large doses of vitamins. The repair in arthritis often takes years. Almost all rheumatoids are anemic and need iron or iron and liver. A tablespoonful of "Black Strap" molasses once a day will improve anemia. Apparently, the sugar in it does no harm.—Loring T. Swain, M. D., in J. Indiana State Med. Assn.

CARCINOMA OF THE LARYNX

Carcinoma of the larynx involves the anterior half of a vocal cord in about 70 per cent of cases. As a result, such a lesion will interfere with normal laryngeal function, producing huskiness or hoarseness as an early initial symptom. Since carcinoma develops slowly and metastasis occurs later, its early recognition affords an opportunity to carry out appropriate treatment while the lesion still is localized and when from 80 to 90 per cent of these cases can be cured. That the facts do not bear out this is apparent when one reviews the cases of carcinoma that are seen in a large laryngeal clinic. More often patients present themselves with inoperable carcinoma or with growths that are so extensive that laryngectomy must be performed. A majority of these at one time were early lesions that could have been cured by a relatively conservative form of surgical treatment.—Louis H. Clerf, M. D., in J. Michigan St. Med. Soc.

PROBLEMS OF INFANT FEEDING

Our methods of infant feeding have changed materially in the past twenty-five years. Our mode of life with its greater stress upon the nervous system, the entrance of the woman into the affairs of the world with the resultant demand upon her for out of the home activities and above all the universal trend toward the hospitalization of all women for the delivery of their infants are the main factors which are responsible for the changes in the system of infant feeding.

Formerly when babies were born in the home nearly all mothers nursed their infants for a varying length of time. There was a more intimate relation between the mother and child from the start of the infant's life. The mother who suffered the pain of labor perhaps was more appreciative of her infant because of the difficulties of her labor. Today the mother has a painless labor, is divorced from her baby during its stay in the hospital and more than half of our women never nurse their babies. This raises the problem of artificial feeding from the first day of life. Many trial formulae are given and with each failure during the early weeks of adjustment to cow's milk the advice of a different physician is sought. This leads, even though unavoidable, to unhappiness among physicians.

If the baby is breast fed many of these early matters of maladjustment to cow's milk are eliminated. There are still physicians who believe that breast feeding is the correct and easy way to feed a baby and that bottle feeding is the wrong and hard way. There are obstetricians who believe that breast feeding hastens the convalescence of the mother and fosters a more stable nervous system in the post partum months. There are surgeons who state that cancer of the breast in later life is more common in women who do not nurse their infants than in those who do even for only a short period.

These surgeons believe that the high cholesterol content of the first milk which is left in the breast with dilatation of the ducts of the mammary gland is detrimental to the future health of the breast. On the other hand there are men interested in the cancer problem, from experiments on mice, who think that should there be a definite history of cancer in the family, the mother should not nurse.—Henry E. Utter, M. D., in Rhode Island Medical Journal.

ENDOCRINE THERAPY IN THE FEMALE

While a state of emotional and physical instability frequently exists at the menarche, we seldom encounter gynecologic abnormalities that require endocrine therapy. At this epoch particularly we should remember the "two-edged sword" possibilities of potent substances. In this early part of the female endocrine life pulverized extract of thyroid gland has been found to be one of the most dependable endocrine products—a fact which again and again is brought to mind in the search for effective therapeutic aids in medical gynecology. Gonadotropins, anterior pituitary extract, and estrogens may at times be given to help direct the physiology toward normal, but the indications for such therapy must be understood and the results closely followed . . .

At the climacteric we again encounter emotional and endocrine chaos in varying degrees. This period is marked by ovarian failure—natural, surgical, or roentgenologic. As the production of progesterone and later of estrogen gradually ceases, the anterior pituitary loses inhibition. Other glands, notably the adrenal, take on renewed activity, manifested by increased ketosteroid elaboration and, symptomatically, by increased medullary activity. Subjectively the patient complains of vasomotor instability, "flashes," emotional upsets, and other symptoms associated with the climacteric.

Fortunately, in the majority of women the hormonal alteration is not so revolutionary and the symptoms, especially if they are anticipated and conditioned, are milder and easily controlled. When symptoms are moderate or severe, estrogens are of definite benefit. Flashes, headaches, joint and eye symptoms, and weakness all seem to improve when the estrogens are used. The dosage should be kept at a minimum. begun early, and discontinued, even if only temporarily, as soon as possible.—Robt. A. Ross, M. D., in North Carolina Medical Journal.

CURARE IN ANESTHESIA

In general anesthesia it has been more difficult to conserve the effect upon the brain while producing sufficient relaxation. All anesthetics are bad in this respect and some are worse than others. Curare has brought an excellent answer. We are now able to administer selectively only enough general anesthetic to produce unconsciousness, or enough more to block afferent pathways, then in addition or in parallel, enough curare to produce the degree of muscular quietness or relaxation desired.

There seem to be two schools of thought in regard to the field of curare. One holds that this drug is a fortunate aid for those cases in which one encounters real difficulty in producing relaxation, but that it should not be used unnecessarily. The other holds that it exhibits less signs of harm than almost any other drug we have had, and that it therefore should be used generously and almost routinely to avoid using any but the lightest doses of our general anesthetics. As time goes on I am more and more inclined to the latter view. This can be carried even so far as to use curare to keep a patient quiet under very light anesthesia for operations not requiring relaxation.—Ralph T. Knight, M. D., in J. Indiana State Medical Association.

NOSE ORGAN OF DEFENSE

Modern rhinology is constantly undergoing major changes as our knowledge increases. The more we learn of nasal function, the more importance we attach to the nose as an organ of defense. The membranes which line the nasal and sinus cavities are equipped with mechanisms which act primarily to prevent invasion by pathogenic organisms, and in the event of invasion by such organisms, act secondarily to throw them off. Pathogens gain a foothold in the nasal mucosa only when a breakdown in the muco-ciliary stream eliminates the protective film of mucus, at least in spots.

By far the most common means of disrupting this defense mechanism is body-chilling. This produces intranasal vasoconstriction, with lowered temperature and a blanching of the membranes which cover the intranasal structures. As the circulation is diminished, there is a cessation of glandular activity; the nose becomes dry and the cilia cease to beat.

A return of intranasal function will occur with the application of heat, either locally or to the periphery; or, if the individual's resistance is good, a compensatory action reestablishes nasal function in ten to twenty minutes in spite of continued exposure to cold.—O. E. Van Alyea, M. D., in North Carolina Medical Journal.

The President's Page

With the approach of the 80th annual meeting of the West Virginia State Medical Association, I can use this page to no better service than to urge the very largest possible attendance in Charleston on May 12, 13 and 14. Besides a well rounded scientific program, which will include invited guests of national reputation, the House of Delegates will be expected to act on certain pending federal legislation and to initiate a state legislative program for possible consideration by the 1949 legislature. A highlight of the convention will be the appearance of Marjorie Shearon, Ph. D., expert consultant to the Senate Committee on Labor and Public Welfare.

Some years ago Dr. Henry Christian, in an *Annals of Internal Medicine* editorial, gave some very pertinent reasons why medical meetings contribute to medical progress. What Dr. Christian said several years ago is just as apropos now, and I am taking the liberty of quoting his editorial:

"Physicians can be divided into two great groups, those who are learning and those who are forgetting, those who each year know more, and those who each year know less. There seems to be no third group, those who are stationary.

"A few physicians increase in knowledge from within and grow from their own doing. These are the innate investigators. The rank and file require outside help to grow and to progress. Books, meetings, contacts, discussions, and teachers are our armamentarium for progress. Like the 'spring tonic' of past days, all of us need some of this medicine, at least annually. A large majority of physicians know their need and seek treatment.

"Things in nature are rarely static; they increase or they decrease; they grow or they decay; they progress or they retrogress. Man's education in many respects resembles things of nature; rarely is it static; when knowledge does not increase, almost always it decreases. Physicians should remember this and make every effort to keep out of the static state and on the side of increase, of growth, of progress.

"Contact with colleagues eager to learn, listening to discussions by those capable of teaching, witnessing demonstrations and clinics, and seeing scientific exhibits lead to more reading and better observation of patients. Herein lies medical progress."

W. H. H. Clark

President.

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OLIN WEST

As we travel through life, we see here and there individuals who stand out prominently above the common herd of their fellows. Such persons owe their bold relief to the higher human qualities with which they are endowed, superior intelligence, loyalty to ideals, perseverence, energy, leadership, and the will to attainment of objectives. Among the elder physicians of this generation, none stands out more prominently than he who has contributed so largely to guiding the destinies of medicine in our lifetime, Olin West. For almost a quarter of a century Secretary of the American Medical Association, he has left his impress indelibly upon the structure of American medicine both as a science and as a compact organized profession. Throughout his career the advancement of scientific medicine and loyalty to the ideals of the profession have been the criteria guiding his every act. Moreover, he has been able to instill into his younger confreres his own enthusiasm for and loyalty to the ideal in medicine and in life.

Last year at San Francisco Dr. West was chosen President Elect of the American Medical Association, the highest honor that can be conferred upon a physician. And now, with deep sorrow in our hearts, we learn that, owing to ill health, he has had to resign his office and entrust the torch of medicine to other hands to bear onward and upward. Our sincerest sympathy in his illness, and our best wishes for his welfare and speedy recovery.

AFTER 80 YEARS

Once again we approach the time when we gather together for our annual convention. Again, Kanawha Medical Society, with its more than 230 members, will serve as host to the State Medical Association. Again, those of us who are fortunate enough to make the trip to Charleston, May 12-14, will gain much from the scientific program which will be presented. We will also have the opportunity to relax and meet and know better our fellow members from over the state.

When our Founding Fathers met eighty years ago to organize West Virginia's first medical society, little did the handful of doctors present dream that, from the meeting held at Fairmont, April 10, 1867, would grow a united, closely-knit progressive organization, with twenty-nine component societies, and nearly 1400 members.

History will record the advances that have been made in medicine during these past eighty years. Suffice it now to say that doctors should give thanks daily for the discovery of drugs within the past few years that help them to effect almost miraculous cures. This is, indeed, a wonderful age, and no member of the State Medical Association who can get to Charleston for the meeting should fail to embrace the opportunity, for the three-day program arranged by the Scientific Work Committee will be of much more than passing interest. It will, in reality, be a refresher and perhaps a postgraduate course in itself.

Don't forget the exhibits. For the first time, the technical exhibits and scientific displays will be housed in a building sufficiently large to enable those in charge to occupy space always needed but never before available.

We have read the program, we know the nature of the exhibits, and we can assure all of our members that the 80th annual meeting in May will probably surpass in every way any annual meeting heretofore held by the Association. Come to Charleston, May 12-14.

A WORTHWHILE PROJECT

We are all thoroughly familiar with the outstanding work that has been done and is being done in the study and treatment of infantile paralysis, cancer, and tuberculosis. Already much has been accomplished in the fight against these diseases. However, the greatest killer known to man, diseases of the heart and circulatory diseases, has been overlooked.

Not all forms of heart disease are preventable or curable, but the most frequent type, rheumatic heart disease, presumably of infectious origin, presents the same opportunity for prevention and cure as other infectious diseases.

With our various kinds of drugs and serums, progress has been almost miraculous, and careful research work will no doubt in time go a long way toward culminating heart diseases of rheumatic origin.

The American Legion could not have selected a peacetime project that means more to humanity than an educational campaign to control rheumatic heart disease.

AUXILIARY'S 23rd MEETING

The Woman's Auxiliary to the West Virginia State Medical Association is preparing for what will probably prove to be the most successful meeting in the entire twenty-three years of its existence. While there will be two important business sessions, all will not be work. Besides participating in receptions and teas and meetings with the members of the State Medical Association, the Auxiliary members will also have several affairs arranged "especially for the ladies."

We say again that the Auxiliary is doing a fine piece of work over the state. The membership is growing and the organization itself has proved in many ways to be a strong, supporting arm to the State Medical Association.

With all their own activities, the Kanawha Auxiliary will take sufficient time-out to operate a refreshment bar in the WCHS auditorium, where light refreshments will be served daily during the meeting with the compliments of this progressive local Auxiliary.

We urge every doctor and guest who attends the meeting in Charleston, May 12-14, to visit both the Kanawha booth and the booth assigned to the parent organization.

A FAR-REACHING DECISION

Of interest to the medical profession is a decision of the Supreme Court of West Virginia rendered December 21, 1946, in the case of Huntington Dental Society of Huntington, West Virginia, vs. Dr. John L. Winton, 40 S. E. (2d) 769.

The proceeding was instituted by the petitioning society before the State Board of Dental Examiners for the purpose of revoking Dr. Winton's license to practice dentistry. The charge was unprofessional conduct, and violation of Chapter 30, Article 4, Section 7 (4j) of the West Virginia Code, which makes the following conduct an offense:

> "Professional conduct or association with, or lending his name to another, for the illegal practice of dentistry, or professional connection or association with any person, firm or corporation, holding himself, themselves, or itself out in any manner contrary to this article".

Dr. Winton, it appears, rented six adjoining rooms, three of which he sublet to Harry Devore, who used them as a laboratory. In 1942 Devore was indicted in Huntington on five counts charging the illegal practice of dentistry, to which he pleaded guilty and served a term in jail. He was again indicted in 1944, but was acquitted, following which he sublet the three rooms from Dr. Winton.

At the hearing before the Board, the record of Devore's trial in 1944 was considered, along with the testimony of several witnesses, including that of K. E. Van Lohen, a professional investigator. Van Lohen, using an assumed name, called Dr. Winton's office at 6:45 in the evening for an appointment, and was told to come immediately. He went, accompanied by Mrs. Mary Taylor, and Devore received him. Being told that he wanted an upper and a lower plate, Devore seated him in a dental chair and stated that he must call Dr. Winton on the telephone. With whomever he talked, he asked, "Do you want me to go ahead and work on him?" Von Lohen did not hear the reply, but stated at the hearing that Devore said he would go ahead and "work on him". Devore then made the impressions, and took a five dollar deposit, for which he gave a receipt signed "Dr. J. L. Winton by H. C. D." Two days later Van Lohen returned for a fitting of the plates. Dr. Winton was in the office on this occasion. Being informed that Van Lohen wished to see the "doctor", who had taken his impressions, Winton called to "Harry". Devore appeared, placed Van Lohen in the dental chair and proceeded to fit the plates. Later Van Lohen returned for a final fitting, which was made by Devore.

Van Lohen's testimony was corroborated by Mrs. Mary Taylor, who was with him on his first visit to Dr. Winton's office, and by Mrs. Elsie Evans, who witnessed the final fitting. W. T. Miller, who was a witness in the trial in which Devore was acquitted, also testified that Devore had fitted a plate for him. Dr. Winton denied all knowledge of Devore's illegal practice.

The Board of Dental Examiners revoked Dr. Winton's license, but on his appeal to the Circuit Court of Cabell County the Board's holding was reversed and the license reinstated. The Circuit

Court held that there was "not the slightest evidence" that Winton knew that Devore was practicing dentistry, and added, that "there is no basis for imputing bad faith to Winton for anything said or done by Devore out of the presence of Winton." The Supreme Court of Appeals reversed the order of the Circuit Court, and reinstated the order of the Board.

In its opinion, the Supreme Court said:

> "An order of the State Board of Dental Examiners revoking the license of a dentist to practice because of a violation of Subsection 4 (j) of Code, 30-4-7, should not be disturbed upon appeal unless it appears that the Board has exceeded its powers or committed a mistake of law in revoking its conclusion."

This language means, of course, that the Board could decide, as it did, the relative importance of the testimony of the witnesses who appeared before it. At the conclusion of the opinion, the Court said:

> "With the factual background considered we believe that it is necessary to find that the State Board of Dental Examiners attached importance to the testimony of the witnesses Miller and Van Lohen rather than to that of Dr. Winton, and in so doing did not exceed its powers or commit a mistake of law."

The opinion in this case represents a reaffirmance of the power of administrative bodies of the type of the West Virginia State Board of Dental Examiners to determine whether the facts developed in a particular case are sufficient to justify revocation of a license. It is highly desirable that the findings of such boards be sustained by the reviewing courts, and that such findings, if not unreasonable, should be treated as conclusive on appeal.

In the Winton case, the Court referred specifically to the cases of Mingo County Medical Society vs. Simon, 124 W. Va. 493, 20 S. E. (2d) 807, and Board of Dental Examiners v. Hedrick, 116 W. Va. 222, 179 S. E. 809 "in the hope that their careful reading will throw some light upon our view of the matter."

In its opinion in the Simon case, the West Virginia Supreme Court first announced a far-reaching doctrine:

> "It should be noted that a finding of malpractice, on conflicting evidence, by a board composed of physicians should be entitled to peculiar weight. As to the finding of gross immorality, the limitations of this Court upon review of the same likewise apply, and we further believe that the finding of a board of Physicians on that question is entitled to the same weight as that on the question of malpractice."

It should be most gratifying to the professions to have courts of last resort, upon review of the findings of administrative boards, hold to the principle that those findings occupy such a high standing, even when based upon conflicting evidence.

In the Hedrick case the Court held that the Board of Dental Examiners was not a judicial body and consequently did not have to follow technical rules of procedure in its hearings.

The case under review presents one novel feature. Winton's license to practice was revoked on the evidence of a paid private detective, who submitted himself for treatment by an unlicensed person. No question as to the admissibility of this evidence was raised by Winton's counsel. Apparently this method of obtaining evidence of illegal practice is allowable in West Virginia. — H. L. Snyder.

LOAN FUND IN GYNECOLOGY

On Christmas day, 1809, a hundred and thirty-seven years ago, a backwoods physician in his home in Danville, Kentucky, successfully removed a large ovarian cyst without anesthesia or antisepsis, thus making his own name and that of his patient immortal. Ephraim McDowell thus paved the way for modern abdominal surgery and gynecology. Jane Todd Crawford, the patient, by her bravery has become a symbol of heroism.

Very fittingly the Woman's Auxiliary to the Southern Medical Association has established a loan fund for young southern physicians wishing to pursue the study of gynecology. The requirements are simple: he or she must not be over 32, of good character, and showing evidence of being capable of absorbing adequate knowledge.

The loan, of course, must be returned in small installments after completion of the study.

This would seem to be a rare opportunity, for example, for a bright young resident finishing a service to strengthen the weak spots in his training, or to familiarize himself more fully in tissue pathology, the vaginal and cervical smear cystologic detection of fundal or cervical cancer, irradiation in cancer, the technics of the more radical panhysterectomies for cancer, endocrinology, sterility diagnosis and treatment, or intensive review of the anatomy of the pelvis and perineum.

Several branches of this Auxiliary in the past have offered medical loan scholarships for undergraduates in medicine. But this seems to be the first postgraduate scholarship under the Woman's Auxiliary sponsorship.

Teachers of gynecology should pass this information on to their students.

Inquiries may be addressed to Mrs. J. Ullman Reaves, 1862 Government Street, Mobile 18, Alabama. — Editorial, Southern Medical Journal, March, 1947.

General News

STATE MEDICAL ASSOCIATION READY FOR ANNUAL MEETING IN CHARLESTON

The 80th annual meeting of the West Virginia State Medical Association will be called to order at Charleston, Monday, May 12, with Dr. Wade H. St. Clair, of Bluefield, presiding as president. No effort has been spared by the program committee to provide the best talent available for the scientific sessions.

As usual, there will be no section meetings, but all of the sections and affiliated societies will have representation on the program, which will continue for three full days. Only the Tuesday night session will be held at the Daniel Boone Hotel. All other meetings will be held in the auditorium at the Shrine Mosque. Dr. Wade H. St. Clair, president of the State Medical Association, will preside at both sessions of the House of Delegates.

When it became evident that the Greenbrier at White Sulphur Springs would not be available for convention purposes until at least late in the year, it was necessary for the scientific work committee to rebuild the program in its entirety. The work of the members has now been completed, and there is no doubt that the program, printed elsewhere in this issue of the Journal, is one of the best in the long history of the Association.

Dr. Wade H. St. Clair, President

Night Sessions Scheduled

The night session on Monday, May 12, will be held in the Shrine Mosque auditorium at eight o'clock. Dr. Wade H. St. Clair, of Bluefield, will deliver the annual address of the president at that time. His subject will be, "Government Responsibility for the Care of the Medically Indigent." Mrs. D. E. Greeneltch, of Wheeling, president of the Woman's Auxiliary, will speak for her organization, and the session will close with an address by Dr. Marjorie Shearon, Ph. D., of Washington, consultant for the Senate committee on labor and public welfare. She will speak on "Bureaucratic Control of Medicine."

U. S. Senator Chapman Revercomb

The Tuesday night session will be held in the ballroom at the Daniel Boone Hotel at eight o'clock. Chapman Revercomb, United States Senator from West Virginia will speak on "Proposed Federal Legislation Affecting the Practice of Medicine." He will be followed by Dr. H. H. Shoulders, of Nashville, Tennessee, president of the American Medical Association, who will be making his first visit to West Virginia. His subject will be "Some Problems in the Economics of Medical Care."

Full Three-Day Program

Approximately forty-five minutes has been allocated to each period. A short question and answer period will be included in this time, the committee again ruling out discussion.

It will be necessary for the periods to begin and end strictly on schedule time, as there is a full program for morning and afternoon sessions during the three-day meeting.

The scientific work committee is composed of Dr. F. J. Holroyd, chairman, and Drs. D. A. MacGregor and C. O. Post.

Scientific Exhibits

The committee on scientific exhibit, composed of Dr Hu C. Myers, chairman, and Drs. C. B. Wright and C. C. Fenton, has arranged fourteen exhibits, which will be set up in the WCHS auditorium on Lee Street,

less than three short blocks from the Shrine Mosque. The members of the committee will personally supervise allotment of space and arrangement of the exhibits so that everything will be in readiness for the opening Monday morning, May 12.

H. H. Shoulders, M. D.,
President, American Medical Association

Technical Exhibits

For the first time, it has been necessary to separate technical exhibits from the auditorium where scientific sessions will be held. All of the thirty-seven exhibits will be set up, with the scientific exhibits, in the WCHS auditorium. One of the advantages of using the auditorium is that wide aisles can be provided and there will be no crowding of exhibits.

The technical exhibitors are cooperating in every way to provide the most interesting and informative display ever arranged for the members of the Association.

As the auditorium is located a little over two short blocks from the Shrine Mosque, the program committee has arranged time-out periods for visiting the exhibits. The auditorium will be open daily from nine to five, with representatives of all exhibitors on duty during that time. The technical exhibits will be set up in the auditorium on Sunday, May 11.

Entertainment Features

Entertainment of a variety not possible during the war years will be provided during the meeting. The first event is scheduled for Sunday night, May 11, with the Kanawha Medical Society serving as host at a reception at the Daniel Boone Hotel at nine o'clock. This reception will follow the annual past president's dinner, at which Dr. R. K. Buford, of Charleston, will be the host.

Kanawha Medical Society will also be host at an open house at the Daniel Boone Hotel Monday and Tuesday afternoons beginning at five o'clock. The host society has arranged a dance at the Casa Loma for Tuesday evening, May 13. Dress will be informal, and the affair will be under the direction of Dr. Russell Kessel.

On Wednesday afternoon, May 14, Governor and Mrs. Clarence W. Meadows will receive members of the State Medical Association and Woman's Auxiliary, and guests attending the convention, at a tea to be held at the Executive Mansion on Kanawha Boulevard, from four until five-thirty o'clock.

Wednesday evening Kanawha Medical Society will again serve as host at an open house at the Daniel Boone at six-thirty. This affair will be followed by the annual banquet and ball at that hotel. Dress will be informal.

The local committee on arrangements is composed of Dr. W. P. Black, chairman; and Drs. T. G. Reed, F. A. Clark, T. P. Mantz, U. G. McClure, A. A. Wilson, W. A. Thornhill, Jr., R. K. Buford, and R. L. Anderson.

CONVENTION AREA MAP
(Downtown Charleston)

A—Shrine Mosque
B—Daniel Boone Hotel
C—Public Library
D—Post Office
E—WCHS Auditorium

Tennis and Golf Tournaments

The annual tennis tournament will get under way at the Charleston Tennis Club, Sunday afternoon at two o'clock, with the finals scheduled for Monday. Trophies and other prizes will be awarded for doubles and singles. Dr. R. L. Anderson, of Charleston, will be in charge of the tournament, and entries should be in

his hands not later than May 8. Letters should be addressed to him at 524 Medical Arts Building, Charleston.

The golf tournament will be held at Kanawha Country Club and will be in charge of Dr. V. L. Peterson. Matches will be played from Sunday morning through Tuesday, and trophies will be awarded the winners. Entries should be mailed or handed to Doctor Peterson not later than Thursday, May 8. Letters should be addressed to him at 310 Medical Arts Building, Charleston.

No Registration Fee

The registration booth will be open in the lobby at the Daniel Boone Hotel on Sunday from two until five o'clock. The booth will be open daily from nine to five during the three days of the meeting. There will be no registration fee.

Section and society breakfasts and luncheons will be held as usual during the meeting. A complete schedule of these events is published elsewhere in this issue of the Journal.

DR. G. G. IRWIN HONORED

Dr. G. G. Irwin, of Charleston, was elected president of the Mid Atlantic Section of the American Urological Association at the annual meeting held in Washington, March 21-22. Doctor Irwin is now serving as vice president of the association.

REFRESHER COURSE IN GENERAL MEDICINE

A two weeks' refresher course in general medicine is being offered by the University of Virginia Department of Medicine, Charlottesville, May 19-31, 1947. The course will be financed by the Medical College of Virginia.

The University of Virginia and the Medical College of Virginia have invited members of the West Virginia State Medical Association and the Medical Society of North Carolina to participate in the course. No tuition fee will be charged registrants.

Physicians in the two states who are interested in attending the course should make application immediately, stating what days they plan to attend and whether or not arrangements for their accommodations should be made in Charlottesville. Applicants should furnish name, address, year and place of graduation, what line of practice they are engaged in at the present time, and information concerning special medical interests.

A complete program will be furnished upon request. All applications should be mailed to Dr. Staige D. Blackford, University Hospital, Charlottesville, Virginia.

MENTAL HYGIENE COMMITTEE MEETS

At a meeting of the special committee on mental hygiene held at Charleston, April 13, the members pledged their unqualified support to Dr. N. H. Dyer, state health commissioner, in the proposed establishment of a division of mental hygiene in the state health department. The members will personally aid the director of the new division, when appointed, to get the program under way in West Virginia without delay.

The committee went on record as approving the establishment of mental health clinics over the state, and discussed the broadening of a program on mental health education so as to include the schools of the state. Consideration was also given to the organization of a mental health society and the creation of a section on mental health in the state medical association. A sub-committee was appointed to study a follow-up system for patients discharged from our mental institutions so that continued aid may be assured them, when needed, during their rehabilitation.

The meeting was attended by Dr. O. B. Biern, Huntington, chairman; and Drs. A. L. Wanner, Wheeling; J. L. Knapp, Weston; O. N. Morison, A. A. Wilson, and W. B. Rossman, Charleston; E. F. Reaser and C. T. Taylor, Huntington; and N. H. Dyer, state health commissioner, Charleston.

Capt. Geo. M. Lyon (MC) USNR

BIKINI FILM AT CONVENTION

The complete Navy film in technicolor showing the Atom Bomb Test at Bikini, commonly designated "Operation Crossroads", will be shown by Capt. George M. Lyon, (MC), USNR, of Huntington, in connection with his address before the West Virginia State Medical Association, at Charleston, Wednesday afternoon, May 14.

Captain Lyon will discuss the "Effects of Atom Bomb Radiation on the Human Body." He is still on active duty with the United States Navy, with headquarters in Washington. His address will be one of the highlights of the annual meeting.

STATE DEATH RATE LOWEST SINCE START OF COMPULSORY REGISTRATION

The lowest death rate per 1000 persons since the registration of deaths with the state health department became compulsory in 1921 was recorded in 1946. The mortality tables compiled for that year by Hi Eastland Steele, director of the division of vital statistics, show 8.7 deaths per thousand persons, or 489 fewer deaths in West Virginia than in 1945.

The greatest number of deaths (highest crude death rate) is seen in heart diseases. However, in 1946 the rate dropped to 217 per 1000 population from the 225 recorded for 1945. In cancer, there was a slight decrease in the number of deaths, the rate dropping from 102 in 1945 to 94 per 1000 population in 1946.

The tables compiled by Mr. Steele reveal that the most outstanding progress in saving lives was among newborn babies. Despite the great number of births in 1946, deaths associated with childbearing reached an all time low of 1.5 maternal deaths per 1000 live births, and deaths of babies under one year of age dropped to forty-one infant deaths per 1000 live births, the lowest in history.

Typhoid and paratyphoid fever caused nine deaths in 1946, the rate of 0.5 per 1000 population being the same as in 1945. The death rate from whooping cough of 1.8 per 1000 population was lower than the rate in 1945, and the number of deaths from diphtheria (20) was fifty per cent lower than in 1945.

There were no deaths from smallpox or rabies in 1946, but poliomyelitis was responsible for eight deaths, and Rocky Mountain spotted fever took a toll of four.

The tuberculosis death date dropped from 41.5 in 1945 to 38.0 in 1946, and the death rate from diarrhea and enteritis of 6.7 per 100,000 population was considerably lower than the rate of 19.0 reported for 1945.

The seven principal causes of deaths in 1946, with rate per 100,000 population, were diseases of the heart, 217.2; cancer, 93.5; cerebral hemorrhage, 80.3; accidents (except motor vehicle), 60.7; nephritis, 50.3; pneumonia and influenza, 49.9; and tuberculosis, 38.0.

SIMPLIFIED HOSPITAL REPORT BLANK

The new simplified hospital report blank, prepared and approved by the International Claim Association and the Health and Accident Underwriters Conference, has just been approved by the American Hospital Association. According to Harlan Justice, deputy insurance commissioner, the form will be submitted to the National Association of Insurance Commissioners for approval at the annual meeting which will be held in Atlantic City in June.

The shortened form requires only claim number, name of insurance company, and policy number; name of hospital, name of patient, date admitted and discharged; nature of complaint, date of first symptoms, final diagnosis, and nature and date of operations performed.

DIABETES COMMITTEE BEGINS STUDY

The establishment of a summer camp for diabetic children in West Virginia was placed high on the list of projects arranged for study by the members of the Committee on Diabetes of the West Virginia State Medical Association, at the initial meeting held in Charleston April 3.

A study is to be made immediately of the feasibility of establishing diabetic clinics in various sections of the state, and a subcommittee was appointed to devise a method for a census of diabetics, both upon a county and a state basis. It is proposed to obtain the bulk of the information from doctors, but information would also be obtained from diabetics by means of coupons printed in county and state papers.

Another subcommittee was appointed to obtain from hospitals over the state information concerning the number of diabetics admitted for treatment during 1946.

The committee is composed of Dr. W. M. Sheppe, of Wheeling, chairman; and Drs. L. Rush Lambert, Fairmont; W. A. Thornhill, Jr., Charleston; R. C. Neale, Bluefield; and Fred Whittlesey, Morgantown.

PREPAREDNESS CONFERENCE ON POLIO

A statewide Preparedness Conference on Poliomyelitis, sponsored by the National Foundation for Infantile Paralysis in cooperation with the State Health Department, will be held May 27, at Jackson's Mill. It is expected that from two to three hundred health workers and representatives from public and private agencies interested in the fight against infantile paralysis will meet with county chapter representatives of the Foundation in this one-day session to consider ways and means of being better prepared to fight poliomyelitis should the disease reach epidemic proportions during the year.

At the general session scheduled for Saturday morning, Dr. N. H. Dyer, state health commissioner, will discuss the function of the state health department in the control of infantile paralysis, and Dr. K. S. Landauer, of New York, will speak on the subject of "The National Foundation's Program for Epidemic Emergency and Year 'Round Medical Care." Two panels are scheduled for the afternoon. The topic for the first will be, "The Problems of the Physician and his Professional Co-Workers in the Care of Poliomyelitis", the discussion being led by a pediatrician, an orthopedist, and a director of physical medicine. The second panel has been arranged for county chapter personnel, and discussion will be led by Mr. West J. Altenburg and Mr. R. W. Linscott, of the chapter department at National Headquarters in New York.

All persons interested in the polio problem, including doctors, nurses, and hospital representatives, are invited to attend the conference. If desired, room reservation may be made for Monday and Tuesday evenings at Jackson's Mill. Request for reservations should be addressed to T. Sterling Evans, West Virginia State Representative of the National Foundation, 307 Security Building, Charleston 1, West Virginia.

STATE HEALTH DEPARTMENT TAKES CONTROL OF RAPID TREATMENT CENTER

The Kanawha Valley Medical Center, West Virginia's Rapid Treatment Center, in South Charleston, was transferred April 1, 1947, from the federal government to the state department of health. The center was turned over to the state by Dr. R. L. Zobel, venereal disease consultant with the United States Public Health Service, at ceremonies conducted in the Administration Building, and was accepted on behalf of the state by Dr. N. H. Dyer, state health commissioner.

During the three years the center was operated by the government, 10,341 cases were treated. Of this total number, more than one-fourth were under twenty-one years of age, 17.4 per cent between eighteen and twenty-one, and 1.3 per cent infants under one year of age, born with the disease. Other men and women treated have ranged up to more than sixty years of age.

The funds used in the operation of the center have been supplied by the federal government, but, beginning May 5, the state will pay the expenses until July 1, when a new allocation of funds is expected to be made by the government. It is probable that West Virginia will have to match the new federal funds by possibly thirty per cent.

The rapid treatment center has a staff of forty-five, including two doctors. The present staff is being retained. The total cost of operation in 1946 was $202,000. On this basis, thirty per cent matched requirements would cost West Virginia about $63,000 for the fiscal year ending June 30, 1948.

The cost per patient for the treatment of syphilis has been approximately $46.00. More than eighty-six per cent of those treated have been white persons, and slightly more than half of 52.8 per cent women and girls.

CANCER CLINIC AT MARTINSBURG

Dr. Wm. Neill, Jr., of Kelly Clinic, Baltimore, will be in charge of a cancer detection clinic at the King's Daughters Hospital, in Martinsburg, May 16. Dr. A. W. Armentrout is chairman of the clinic, which is being sponsored by the Eastern Panhandle Medical Association.

CONGRESS ON OBSTETRICS AND GYNECOLOGY

The third American Congress on Obstetrics and Gynecology will be held in St. Louis, September 8-12. Three panel-type morning sessions have been scheduled on anesthesia and analgesia, cancer, and caesarian section. The three afternoon meetings will feature discussion of psychosomatic aspects of pregnancy; pregnancy complicated by heart disease, diabetes and tuberculosis; and recent advances in endocrinology.

Full information concerning the meeting may be obtained from the office of the Congress, 24 West Ohio Street, Chicago 10, Illinois.

PLANS COMPLETED FOR 23rd ANNUAL MEETING OF WOMAN'S AUXILIARY

All arrangements have been completed for the 23rd annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association at Charleston, May 12-14. While many of the convention activities will be merged with those of the State Medical Association, a program essentially for members of the Auxiliary has been arranged for the second and third days of the meeting.

Opening Session, May 13

The pre-convention meeting of the executive board will be held on Monday afternoon, May 12, and the convention will be formally opened Tuesday morning at ten o'clock at St. John's Parish House on Quarrier Street. Mrs. A. C. Chandler, of Charleston, president-elect of Kanawha Auxiliary, will deliver the address of welcome and the response will be made by Mrs. John F. McCuskey, of Clarksburg. Following the business meeting, a luncheon will be served at Edgewood Country Club at one o'clock, with Mrs. Randolph L. Anderson, of Charleston, president of the Kanawha Auxiliary, presiding for the hostess society. Following the installation of Kanawha Auxiliary officers, a fashion show will be presented by the Diamond Department Store.

Mrs. D. E. Greeneltch, Auxiliary President

The second business session will be held Wednesday morning, May 14, at which time state officers will be elected for the ensuing year, and Mrs. F. Carl Chandler, of Bridgeport, the incoming president, will deliver her inaugural address.

Mrs. D. E. Greeneltch, of Wheeling, president of the Auxiliary, will preside at both sessions.

Ohio President to Speak

Mrs. Paul A. Davis, of Akron, president of the Ohio State Medical Association's Auxiliary, and Capt. George M. Lyon (MC), USNR, of Huntington, will be the guest speakers at the annual luncheon which will be held at the Ruffner Hotel, Wednesday afternoon, at one o'clock.

The post-convention meeting of the board, with Mrs. F. Carl Chandler presiding, will be held at three o'clock.

Tea at Executive Mansion

The members of both the Auxiliary and the State Medical Association will be guests of Governor and Mrs. Clarence W. Meadows at a tea to be given at the Executive Mansion, on Kanawha Boulevard, at four o'clock.

Golf and Tennis

Members of the auxiliary are invited to bring their golf clubs with them to the meeting. Greens privileges have been arranged at both Edgewood and Kanawha Country clubs. Members desiring to play the Edgewood course should get in touch with Mrs. V. T. Churchman, Jr. (Phone 36-202), while those who desire to play the Kanawha course should contact Mrs. R. R. Summers (Phone 62-727).

The Charleston Tennis Club will be open to members of the Auxiliary on all three days of the meeting. Members of the State Medical Association will participate in a tournament at the club beginning on Sunday, May 11. Mrs. Bert Bradford, Jr. (Phone 37-838) is in charge of arrangements for tennis matches for members of the Auxiliary.

Convention Chairmen

The following is a list of the convention chairmen appointed for the various activities of the convention:

Mrs. Randolph L. Anderson, general chairman; Mrs. J. P. Lilly, co-chairman; Mrs. Ulysses G. McClure, honorary chairman; Mrs. W. E. Hoffman, Tuesday luncheon chairman, assisted by Mrs. A. A. Wilson and Mrs. Thomas G. Reed; Mrs. T. Maxfield Barber, Wednesday luncheon chairman, assisted by Mrs. Dan Barber and Mrs. A. A. Wilson; Mrs. Ralph S. McLaughlin, registration chairman; Mrs. W. Paul Elkin, convention treasurer; Mrs. Charles Staats, exhibit chairman; Mrs. J. P. Lilly, publicity chairman; and Mrs. R. B. Price, transportation chairman.

ANNUAL HEALTH CONFERENCE IN MAY

The Annual Health Conference, which is a joint meeting of the West Virginia Public Health Association and the Health Officers Conference, will be held at the Stonewall Jackson Hotel, in Clarksburg, May 16-17.

The conference will open at 9:00 A. M., Friday, May 16, and the first address will be presented by Ross Techemeyer, executive secretary, Public Employes' Retirement Fund, Indianapolis. His subject is, "Retirement Systems in the State of Indiana." He will be followed on the program by Ralph Barnes, of Atlanta, who will speak on "Rodent Control." The morning session will end with an address by Dr. Bruno Gebhard, director, Cleveland Health Museum, whose subject is, "Seeing is Believing and Relieving."

The remainder of the program follows:

Friday Afternon
May 16

Film, "Clean Water."

R. K. Anderson, M. D., Cumberland, Maryland—"Recent Studies in Nutrition as Applied to Public Health."

O. F. Hedley, M. D., Tuberculosis Consultant, district No. 2, USPHS, Richmond, Virginia—"Newer Drugs in the Control of Tuberculosis."

Gertrude M. Church, Regional Nursing Consultant, Children's Bureau, Washington, D. C.—"The Influence of the Public Health Nurse in the Community."

Saturday Morning
May 17

W. F. McAnally, M. D., Pittsburgh—"Medicine and Hygiene in Industry."

A. P. Sackett, M. D., chief medical officer in charge, Rapid Treatment Center, Charleston—"Method and Administration of Rapid Treatment."

Isabelle Morgan, M. D., Director, Division of Maternal and Child Health, State Department of Health, Charleston—"The Need for Prenatal and Well Baby Clinics in West Virginia."

Saturday Afternoon
May 17

Section group meetings will be held as follows:

Health Officers, Dr. Leon Dickerson, presiding; Public Health Nurses, Miss Hattie Samples, presiding; Sanitary Engineers and Sanitarians, C. O. Snyder presiding; and Clerks, Paul Shanks, presiding.

The annual banquet will be held at the Stonewall Jackson Hotel Saturday evening.

ASSIGNED TO ARMY MEDICAL CENTER

Major W. W. Currence, M. C., of Clarksburg, who has been company commander and executive officer with the 32nd Medical Battalion, 10th Mountain Medical Battalion, and the 2nd Medical Battalion, with several months' service in Italy, has been appointed to an assistant residency in pediatrics at the Army Medical Center, in Washington, and will report for duty the latter part of April.

STATE AUXILIARY BOOTH

The Woman's Auxiliary to the West Virginia State Medical Association has arranged for an exhibit in a large booth in the WCHS Auditorium during the three-day meeting, May 12-14. Posters and placards will depict activities of the organization during the past year, and representatives of the Auxiliary will be present to greet visitors during the hours the auditorium is open.

GASTROENTEROLOGICAL ASSOCIATION MEETS

The 12th annual meting of the National Gastroenterological Association will be held in Atlantic City, June 4-6, immediately preceding the centennial meeting of the American Medical Association. Copy of the program and full details concerning the meeting may be obtained from the National Gastroenterological Association, 1819 Broadway, New York 23, New York.

RELOCATIONS

Dr. Hunter Boggs, formerly of Wheeling, has moved with his family to Charleston, and will open offices the first of May at 1115 Quarrier Street for the practice of his specialty of dermatology.

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Dr. G. O. Crank, member of the medical staff at the Veterans Administration sub-regional office in Clarksburg, has been transferred to the California regional office in Los Angeles. His home address in that city is 925 Sunset Boulevard.

* * * *

Dr. W. A. Klausman, of Anjean, has moved to Holden where he will continue in industrial practice.

* * * *

Dr. S. R. Hoover, of Charleston, has accepted appointment as urologist at the Veterans Administration Regional Office in Huntington. He assumed his duties as specialist, senior grade, on February 3, 1947.

* * * *

Dr. Dan Glassman, of Charleston, has relocated for the practice of medicine at Point Pleasant, where he has offices at 4th and Main Streets.

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Dr. Edwin J. Euphrat, who has been serving as chief of the Radiological Service, U. S. Veterans Hospital, Aspinwall, Pennsylvania, has returned to Elkins and accepted appointment as chief of the Department of Radiology at Davis Memorial Hospital, Elkins. Dr. Euphrat was formerly located in practice in that city.

* * * *

Dr. Robert M. Ferrell, of Ronceverte, who has been taking postgraduate work in EENT at the Gill Memorial Eye, Ear, Nose and Throat Hospital, Roanoke, Virginia, has located at Lewisburg for the practice of his specialty.

* * * *

Dr. E. R. Cooper, of Man, has relocated for the practice of his profession at Troy.

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Dr. Gerald E. Hartle, of Wardensville, has moved to Moorefield, where he will continue in general practice.

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Dr. Lewis E. Nolan, formerly of Montgomery, who has been located at Monroe, Louisiana, since his discharge from the Army Medical Corps in 1946, has accepted appointment as Chief of the Laboratory Service at the Veterans Administration Hospital in Columbia, South Carolina.

* * * *

Dr. Glenn F. Palmer, of Charleston, has accepted a year's residency in orthopedics at the State Hospital for Crippled Children, at Elizabethtown, Pennsylvania.

PHC MEETS JUNE 30

The summer meeting of the Public Health Council will be held at the Daniel Boone Hotel in Charleston, June 30-July 1-2, for the purpose of examining applicants for licensure in West Virginia.

DINNER FOR POST SURGEONS

Dr. Frank V. Langfitt, of Clarksburg, has been appointed chairman of the medical advisory committee of the American Legion, Department of West Virginia. As chairman, he will be in charge of the Legion's project which is an educational campaign to control rheumatic heart disease.

Doctor Langfitt will be in charge of a dinner that has been arranged by the American Legion in connection with the annual meeting of the West Virginia State Medical Association. The dinner, which will be attended by Post surgeons from over the state, and which will be open to all doctors interested in this work, is scheduled for Monday evening, May 12, at the Daniel Boone Hotel, in Charleston.

AUXILIARY TO SERVE REFRESHMENTS

The Woman's Auxiliary to the Kanawha Medical Society will operate a coffee bar in the WCHS auditorium, at Charleston, during the annual meeting of the State Medical Association, May 12-14. Coffee and doughnuts will be served during the three-day meeting to members and guests of the Auxiliary and the State Medical Association, with the compliments of the Kanawha Auxiliary.

The bar will be set up in the Kanawha Auxiliary booth, located in front of the stage and between the space provided for technical exhibits and scientific displays, and will be open daily from 9:30 to 11:00, and from 3:30 to 4:30 o'clock.

AMERICAN CONGRESS OF PHYSICAL MEDICINE

The 25th annual scientific and clinical session of the American Congress of Physical Medicine will be held September 2-6, 1947, at the Hotel Radisson, in Minneapolis. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held September 2-5. These courses will be open to physicians and the therapists registered with the American Registry of Physical Therapy Technicians. For information concerning the convention and the instruction course, address the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

"STEPHEN GRAHAM, FAMILY DOCTOR"

The following broadcasting stations, affiliates of the Mutual Broadcasting System, are carrying the American Medical Association's program, "Stephen Graham, Family Doctor", each Monday night from 10:30 to 11:00 o'clock: WWNR, Beckley; WTIP, Charleston; WHAR, Clarksburg; WMON, Montgomery; and WBTH, Williamson. The program is transcribed by WPLH, Huntington, and broadcast Tuesday evenings from 7:30 to 8:00 o'clock. Station WBRW, at Welch, will probably carry the program when the network lines are installed about June first.

Radio stations broadcasting the program report that many favorable comments have been received with reference to this popular weekly broadcast.

CONVENTION PROGRAM

80th Annual Meeting

of the

West Virginia State Medical Association

SHRINE MOSQUE, CHARLESTON

May 12-14, 1947

SUNDAY AFTERNOON
May 11

12:00—Pre-Convention Meeting of the Council, Daniel Boone Hotel.

Andrew E. Amick, M. D., *presiding.*

2:00—Registration, Lobby, Daniel Boone Hotel.

SUNDAY EVENING

6:00—Past President's Dinner, Daniel Boone Hotel.

Host, R. K. Buford, M. D.

9:00—Open House, Daniel Boone Hotel.

Host, Kanawha Medical Society.

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MONDAY MORNING
May 12

OPENING EXERCISES

9:30—Call to Order—Wade H. St. Clair, M. D., President, Bluefield.

Invocation—The Rev. Alfred E. Bennett, Pastor, St. Mark's M. E. Church, Charleston.

Address of Welcome—Spencer L. Bivens, M. D., President, Kanawha Medical Society.

Response—D. A. MacGregor, M. D., Wheeling.

SCIENTIFIC PROGRAM

(D. A. MacGregor, M. D., *presiding*)

10:15—"The Diagnosis and Treatment of Cancer of the Breast"—Norman Treves, M. D., New York City.

(J. Ross Hunter, M. D., will introduce the speaker)

11:00—"Prefrontal Lobotomy"—James G. Arnold, Jr., M. D., Baltimore.

(Thomas Bess, M. D., will introduce the speaker)

11:45—Recess for visiting exhibits (WCHS Auditorium).

Section and Society Luncheons at twelve-thirty.

MONDAY AFTERNOON

(Andrew E. Amick, M. D., *presiding*)

2:00—ORATION IN SURGERY.

"Some Headaches Amenable to Surgery"—E. Lyle Gage, M. D., Bluefield, W. Va.

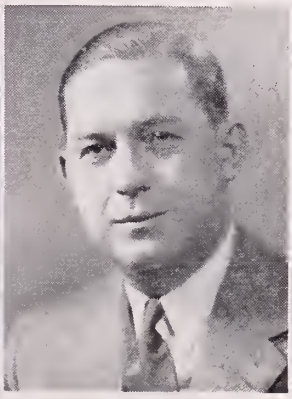
(Wade H. St. Clair, M. D., will introduce the speaker)

2:45—"Chronic Urinary Tract Infection in Children"—Edgar W. Kirby, Jr., M. D., Bluefield, W. Va.

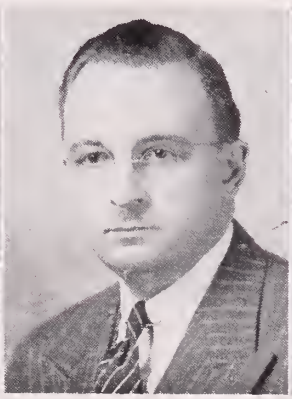
(G. G. Irwin, M. D., will introduce the speaker)

CONVENTION SPEAKERS

Norman Treves, M. D.



James G. Arnold, Jr., M. D.



E. Lyle Gage, M. D.

Edgar W. Kirby, Jr., M. D.

3:15—"The Clinical and Pathological Concept of Hypersplenism"—Emmerich von Haam, M. D., Columbus, Ohio.
(C. C. Fenton, M. D., will introduce the speaker)

3:45—Recess for visiting exhibits (WCHS Auditorium).

4:15—First Meeting of the House of Delegates.

MONDAY EVENING

(James S. Klumpp, M. D., *presiding*)

8:00—ADDRESS OF THE PRESIDENT—"Government Responsibility for the Care of the Medically Indigent"—Wade H. St. Clair, M. D., Bluefield, W. Va.

8:30—Introduction of Mrs. D. E Greeneltch, Wheeling, President, Woman's Auxiliary.

8:45—"Bureaucratic Control of Medicine"—Marjorie Shearon, Ph. D., Consultant to the Committee on Labor and Public Welfare, U. S. Senate, Washington, D. C.

TUESDAY MORNING
May 13

(Cecil O. Post, M. D., *presiding*)

9:30—"Infant Diarrhea"—James W. Bruce, M. D., Louisville, Ky.
(Harry E. Baldock, M. D., will introduce the speaker)

10:15—"Psychiatry and the General Practitioner"—Mark L. Gerstle, Jr., M. D., New York City.
(O. B. Biern, M. D., will introduce the speaker)

11:00—ORATION IN MEDICINE.
"Medical Perspective"—Pat A. Tuckwiller, M. D., Charleston, W. Va.
(Wade H. St. Clair, M. D., will introduce the speaker)

11:45—Recess for visiting exhibits (WCHS Auditorium).
Section and Society Luncheons at twelve-thirty.

TUESDAY AFTERNOON

(Guy H. Michael, M. D., *presiding*)

2:00—"The Modern Use of Insulin"—J. T. Beardwood, Jr., M. D., Philadelphia.
(W. M. Sheppe, M. D., will introduce the speaker)

2:45—"Puzzling Types of Abdominal Pain"—Walter C. Alvarez, M. D., Rochester, Minn.
(James L. Wade, M. D., will introduce the speaker)

3:30—"The Diagnosis and Treatment of Acute Coronary Diseases"—Arthur M. Master, M. D., New York City.
(O. B. Biern, M. D., will introduce the speaker)

4:15—Second Session of the House of Delegates.

TUESDAY EVENING

(Ballroom, Daniel Boone Hotel)
(Wade H. St. Clair, M. D., *presiding*)

8:00—"Proposed Federal Legislation Affecting the Practice of Medicine"—Hon. Chapman Revercomb, Charleston, U. S. Senator from West Virginia.

8:45—"Some Problems in the Economics of Medical Care"—H. H. Shoulders, M. D., Nashville, Tennessee, President, American Medical Association.
(Walter E. Vest, M. D., will introduce the speaker)

10:00—Dance, Casa Loma.
Host, Kanawha Medical Society.

WEDNESDAY MORNING
May 14

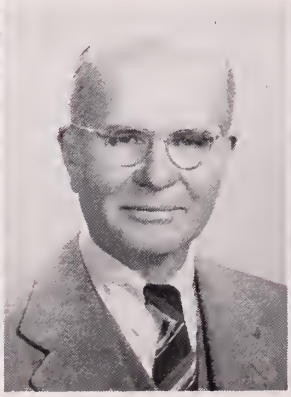
(Thomas L. Harris, M. D., *presiding*)

9:30—"Corneal Grafts"—R. Townley Paton, M. D., New York City.

CONVENTION SPEAKERS

Emmerich von Haam, M. D.

Marjorie Shearon, Ph. D.


James W. Bruce, M. D.

Mark L. Gerstle, M. D.

(A. C. Chandler, M. D., will introduce the speaker)

(Moving picture of corneal graft operation will be shown at the Daniel Boone Hotel immediately following Doctor Paton's address.)

10:15—"A New Method of Studying Efficiency of the Heart and Circulation"—John H. Foulger, M. D., Wilmington, Del.

(J. J. Brandabur, M. D., will introduce the speaker)

11:00—"Abdominal Pregnancy"—Louis H. Douglass, M. D., Baltimore.

(E. J. Humphrey, M. D., will introduce the speaker)

11:45—Recess for visiting exhibits (WCHS Auditorium).

Section and Society Luncheons at twelve-thirty.

WEDNESDAY AFTERNOON

(T. M. Barber, M. D., *presiding*)

2:00—"The Responsibility of the Physician in the Care of Acute and Convalescent Poliomyelitis"—Robert L. Bennett, Jr., M. D., Warm Springs, Ga.

(Mr. Joe W. Savage, Executive Director of the National Foundation for Infantile Paralysis, New York City, will introduce the speaker)

2:45—"Effects of Atom Bomb Radiation on the Human Body"—Capt. George M. Lyon (MC), USNR, Huntington, W. Va.

(M. H. Porterfield, M. D., will introduce the speaker)

4:00—Tea, Executive Mansion, Kanawha Boulevard.

Governor and Mrs. Clarence W. Meadows, *receiving.*

WEDNESDAY EVENING

6:30—Reception, Clubroom, Daniel Boone Hotel.
Host, Kanawha Medical Society.

7:30—Annual Banquet, Ballroom, Daniel Boone Hotel.
James S. Klumpp, M. D., *Toastmaster.*

9:30—Dance, Ballroom.

CONVENTION SPEAKERS

(Biographical Sketches)

WALTER C. ALVAREZ, M. D., Mayo Clinic, Rochester, Minnesota; M. D., Stanford Medical School, and until 1925 associate professor of research medicine at the University of California; past president of the American Gastro-Enterological Association; editor of Gastroenterology; member Association of American Physicians, American Physiological Society, Society for Experimental Biology and Medicine, Society for Clinical Investigation, Central Society for Clinical Research; author of "An Introduction to Gastroenterology," "Nervous Indigestion and Pain," and over 600 articles. Most of research and writing has been in the fields of gastroenterology, physiology and the neuroses. Travels and lectures about six weeks out of each year.

JAMES G. ARNOLD, JR., M. D., Baltimore, Maryland M. D., Johns Hopkins Medical School; assistant and instructor in medicine, Johns Hopkins, 1929-32; fellow in neurosurgery and neuropathology, University of Maryland, 1932-34; associate in neurology, University of Maryland, 1934-39; now visiting neurosurgeon at University, Union Memorial, Baltimore City, Women's, St. Agnes, West Baltimore, Mercy, South Baltimore, and St. Joseph's hospitals; consulting neurosurgeon, Veterans Hospital, Fort Howard, Maryland; associate professor of neurosurgery at University of Maryland Medical School; Harvey Cushing Society; American Board of Neurological Surgery.

JOSEPH T. BEARDWOOD, JR., M. D., Philadelphia; graduated University of Pennsylvania School of

CONVENTION SPEAKERS

Pat A. Tuckwiller, M. D.

J. T. Beardwood, Jr., M. D.

W. C. Alvarez, M. D.

Arthur M. Master, M. D.

Medicine; chief interest for past twenty years has been metabolic diseases; one of the founders and past president of the American Diabetes Association; chairman of the commission on diabetes of the Pennsylvania Medical Society, and chairman of the executive committee of the Philadelphia Metabolic Association; author of "Simplified Diabetic Management" (Lippincott); editor "Section of Diseases of Metabolism, Annual Review of the Cyclopedia of Medicine"; now professor of the diseases of metabolism at the Graduate School of Medicine of the University of Pennsylvania; physician and chief-in-charge of the metabolic service at Presbyterian Hospital; director of medical services at Abington Memorial Hospital; and, consultant in metabolic diseases at the Memorial Hospital in Roxborough, and the Philadelphia Hospital for Contagious Diseases.

ROBERT LEO BENNETT, JR., M. D., Warm Springs, Georgia; M. D., University of Pittsburgh; M. S. in physical medicine, Mayo Foundation, University of Minnesota, 1941; assistant professor, physical medicine, University of Wisconsin, 1940-41; Director of physical medicine, Georgia Warm Springs Foundation, also director post-graduate school since 1941. Professor of Physical Medicine, Emory University Medical School, and director, Department of Physical Medicine, Emory University Hospital. Member American Congress of Physical Medicine.

JAMES W. BRUCE, M. D., Louisville, Kentucky; M. D., University of Pennsylvania Medical School, 1912; two years on the fourth division Bellevue Hospital, New York City, and then served as resident physician Louisville City Hospital; served in the Medical Corps of the Army during World War I, with eighteen months' service in France; postgraduate work in pediatrics in New York and Boston; engaged in practice of pediatrics at Louisville since 1920; Professor of Pediatrics and head of the Department of Pediatrics at University of Louisville School of Medicine since 1941.

LOUIS H. DOUGLASS, M. D., Baltimore, Maryland; graduated from University of Maryland School of Medicine; professor of obstetrics at the University of Maryland School of Medicine; Obstetrician-in-Chief, Baltimore City Hospitals; FACS; American Board of Obstetrics and Gynecology; A.A.O.G.A.S.

JOHN HENRY FOULGER, M. D., Wilmington, Delaware; B. S., University of London, England; Ph. D. in biochemistry, University of Cincinnati, 1924, and M. D., 1930; instructor in chemistry, University of London, 1921-23; fellow in biochemstry, University of Cincinnati, 1923-24; director of Haskell Laboratory, Wilmington, Delaware, since 1939, and associate professor of industrial health, Medical College of Virginia since 1939. Research subjects: Chemical methods of detecting and estimating carbohydrates; the estimation of silicon in human tissues; the influence of urea upon blood clotting; the use of urea in the treatment of wounds; the toxicity of barium chloride; the toxicity of organic vapors and gases; and industrial toxicology and medicine; F.A.C.P.; American Academy of Occupational Medicine; American Heart Association; American Chemical Society; and American Association for the Advancement of Science.

E. LYLE GAGE, M. D., Bluefield, West Virginia; M. D., University of Pennsylvania School of Medicine; Madelleine Ottman Fellow, Assistant Resident in Neurosurgery, Fellow in Neuropathology and Chief Resident in Neurosurgery at Royal Victoria Hospital, and Montreal Neurological Institute; associate surgeon, British American Hospital, Lima, Peru, 1934-39; chief surgeon, Princeton Hospital, Princeton, West Virginia, 1939-41; neurosurgeon, Bluefield Sanitarium, Bluefield; Stevens Clinic Hospital, Welch, and Clinch Valley Clinic Hospital, Richlands, Virginia, since 1941; on leave with Medical Corps, USNR, 1942-46; Commander (M. C.) V. S., USNR, neurosurgeon and chief of surgery, USN Hospital, Bainbridge, Maryland; member of American Association of Neuropathologists; F.A.C.S.; licentiate of the Medical Council of Canada, and diplomate of American Board of Surgery.

MARK LEWIS GERSTLE, JR., M. D., New York City; received "war" degree in 1918 at Harvard College just before enlisting in the U. S. Navy; M. D., Leland Stan-

CONVENTION SPEAKERS

R. Townley Poton, M. D.

John H. Foulger, M. D.

Louis H. Dougloss, M. D.

Robb L. Bennett, Jr., M. D.

ford University, 1925; instructor in neurology at Stanford Medical School until 1928; associated with Dr. S. A. Kinnier Wilson at the National Hospital in London until late 1929; assistant professor of neurology at University of California until 1934; commissioned in the U. S. Navy in 1940, serving continuously in this country and in the Southwest Pacific until ordered to inactive duty in 1946, rank of Captain; author of "The Doctor Discusses Your Questions", and several other medical papers; F.A.C.P.; member of the American Psychiatric Association; diplomate of the American Board of Psychiatry and Neurology; now liaison psychiatrist at Mt. Sinai Hospital and visiting psychiatrist and neurologist at Post Graduate Hospital and Medical School, New York, with title of assistant clinical professor of psychiatry and neurology from Columbia University.

EMMERICH VON HAAM, M. D., Columbus, Ohio; born in Austria; attended College of the Empress Maria Theresa and the University of Vienna; M. D. in 1926; training in pathology from Professor Sternberg, and clinical pathology from Professor Lauda; came to the U. S. in 1929 as fellow in cancer research, Psychiatric Institute (Dr. F. F. Allen), Morristown, New Jersey; associate professor of pathology at the University of Arkansas, 1931-32; assistant professor of the department of pathology at Louisiana State University, 1932-1937; professor of pathology at Ohio State University since 1937. Research interests: malignant diseases, and blood scrapings; member of American Society of Clinical Pathology; American Association Pathologists and Bacteriologists; Soc. Exper. Biol. & Med.; American Association for Cancer Research; American Society of Tropical Medicine.

EDGAR W. KIRBY, JR., M. D., Bluefield; M. D. University of Virginia; surgical internship University of Virginia, 1932-34; resident in urology, University of Virginia, 1934-36, instructor in urology, 1936-38, and assistant professor of urology 1938-46; visiting urologist to University of Virginia Hospital, 1938-46; during World War II, served as chief of urology, 115th Station Hospital and 125th Army General Hospital, 1942-46; urologist at Bluefield Sanitarium since April 9, 1946; diplomate of American Board of Urology; American Urological Association.

CAPT. GEORGE M. LYON (MC) USNR, Huntington; M. D., Johns Hopkins University 1920; Pediatrician Holzer, Huntington Memorial, and St. Mary's Hospitals since 1925; U. S. Bureau of Mines and Chemical Warfare Service, U. S. Army, 1918; safety advisor and officer in charge of safety and medical elements, commander joint task force, on "Operation Crossroads," January 1946-May 1947; bronze star medal 1944; legion of merit 1946; citation for "meritorious performance of duty as Chemical Warfare Officer on the staff of commander, U. S. Naval Service in Europe," August 1942 to September 1944; fellow American College of Physicians, fellow of American Academy of Pediatrics; member society for research in child development; author of many articles on clinical pediatric subjects, including epidemic meningitis, acute poliomyelitis, bacillary dysentery.

ARTHUR M. MASTER, M. D., New York City; M .D., Cornell University Medical College; consultant cardiologist at the Joint Disease Hospital, the Gouverneur Hospital, and U. S. Veterans Hospital, in New York; cardiologist at the Mount Sinai Hospital since 1941; now associate professor of clinical medicine, College of Physicians and Surgeons, Columbia University, New York; member Association for the Advancement of Science, American Heart Association, Society for Experimental Biology and Medicine, American College of Physicians, and Association for the Advancement of Industrial Medicine and Surgery; captain in the Navy in World War II, 1943; served as consultant cardiologist at the National Naval Medical Center, Bethesda, Maryland, and chief of medicine in U. S. Mobile Hospital No. 10 in the Solomons; consultant cardiologist in Aeia Heights Hospital in Hawaii, and consultant cardiologist at St. Albans Naval Hospital, Long Island, New York; author of the "Electrocardiogram and X-Ray Configuration of the Heart"; also author of over 150 articles on internal medicine and cardiology.

R. TOWNLEY PATON, M. D., New York City; B. S., Princeton, 1925; Cambridge (England) Medical School, 1925-27; M. D., Johns Hopkins, 1929; American Board of Ophthalmology, American Academy of Ophthalmology and Otolaryngology; surgical director of Manhattan Eye and Ear Hospital; Clinical Professor of Ophthalmology, New York University College of Medicine; vice president of the Eye Bank for Sight Restoraation; director of Corneal Research Laboratory; director of National Society for the Prevention of Blindness; author of numerous articles, including "Sight Restoration Through Corneal Grafting" (Sight Saving Review, Vol. 15, No. 1, 1945); "Inter-relationships of Ophthalmology and Systemic Diseases" (Diseases of Eye, Ear, Nose and Throat, September, 1942); and "Subconjunctival Injections of Neoprontosil in the Treatment of Ocular Infections" (Archives of Ophthalmology, 22:377, September, 1939).

CHAPMAN REVERCOMB, Charleston, West Virginia; LL. B., University of Virginia; former member editorial board of Virginia Law Review; served in World War I; moved to Charleston in 1922, where he has since continued in the general practice of law; member American Bar Association, West Virginia, and Charleston Bar associations; former member of the Republican State Executive Committee; chairman of the State Judicial Convention of 1936; elected to the United States Senate from West Virginia in 1942 for the term ending January 3, 1949; chairman Committee on Public Works, and member of Committee on the Judiciary; chairman of subcommittees of Judiciary, Committee on Immigration and Naturalization, and Constitutional Amendments.

WADE H. ST. CLAIR, M. D., Bluefield, West Virginia; graduate Medical College of Virginia, Richmond; located in Bluefield in 1902 and helped develop the Bluefield Sanitarium, the Stevens Clinic at Welch, and the Clinch Valley Clinic at Richlands, Virginia; now chief surgeon at Bluefield Sanitarium; F. A. C. S.; attended various surgical clinics in this country and in Europe; has made several contributions to surgery, notably to surgery of the gallbladder; now president of the West Virginia State Medical Association.

MARJORIE SHEARON, Washington, D. C.; Ph. D., in pure science, Columbia University; member of faculty at Columbia for five years, followed by five years' independent research at the American Museum of Natural History, New York City; has served for the past fourteen years in various public positions; has been engaged in work since 1935 for the Social Security Board's bureau of research and statistics, the U. S. Public Health Service, and the Republican National Committee, serving as research analyst to the Senate Minority Conference; now expert consultant, on a nonpartisan basis, to the Committee on Labor and Public Welfare, assigned to the Chairman, Senator Robert A. Taft; member of American Association of University Women; fellow of The American Association for the Advancement of Science; and, Phi Beta Kappa.

H. H. SHOULDERS, M. D., Nashville, Tennessee; M. D., University of Nashville Medical Department; Captain in the Army Medical Corps during World War I; served as resident surgeon at St. Luke's Hospital, New York City, and house surgeon at the Hospital for the Ruptured and Crippled; past president of the Nashville Academy of Medicine; first president of the Nashville Surgical Society; editor of the Journal of the Tennessee State Medical Association for eighteen years; speaker of the House of Delegates of the A. M. A., 1937-45; diplomate of the American Board of Surgery; F.A.C.S.; now president of the American Medical Association.

NORMAN TREVES, M. D., New York City; M. D., Johns Hopkins University; fellow of the American College of Surgeons; diplomate, American Board of Radiology and American Board of Surgery; associate attending surgeon, Memorial Hospital, New York; clinical director, Tumor Clinic, Meadowbrook Hospital, Hempstead, New York; and, instructor in surgery, Cornell University Medical School, New York.

PAT A. TUCKWILLER, M. D., Charleston, West Virginia; B. S. West Virginia University; M. D., Rush Medical College (University of Chicago); interned Presbyterian Hospital, Chicago, City Hospital, Cleveland, Johns Hopkins Hospital, Baltimore, and Lakeside Hospital, Cleveland. F.A.C.P.; commissioned Major in the medical corps of A.U.S., July 5, 1942; released April 24, 1946, with rank of Colonel; American Board of Internal Medicine, 1946.

DELEGATES AND ALTERNATES

B-R-T (3)—Delegates, W. E. Whiteside, Parsons, Hu C. Myers, Philippi, and Donald R. Roberts, Elkins.

BOONE (2)—Delegates, W. F. Harless and L. A. Dickerson, Madison. Alternates, O. D. Ballard, Van, and H. A. Smith, Madison.

BROOKE (1)—Delegate, F. L. Matson, Wellsburg.

CABELL (7) — Delegates, J. F. Barker, V. L. Chambers, R. J. Stevens, Thomas L. Grove, Huntington. Alternates, Lee F. Dobbs, C. S. Duncan, and A. S. Jones, Huntington.

CENTRAL WEST VIRGINIA (3)—Delegates, J. M. Cofer, Bergoo.

DODDRIDGE (1)—Delegate, A. Poole, West Union.

EASTERN PANHANDLE (2)—Delegates, John S. Van Metre, Charles Town, and G. O. Martin, Martinsburg. Alternates, C. G. Power and Andrew E. Zepp, Martinsburg.

FAYETTE (3)—Delegates, Claude Frazier, Winona, R. A. Updike, Montgomery, and Joe N. Jarrett, Oak Hill. Alternates, C. W. Stallard and E. S. Carter, Jr., Montgomery, and Thomas C. Sims, Fayetteville.

GREENBRIER VALLEY (2) — Delegates, A. G. Lanham and P. E. Prillaman, Ronceverte. Alternates, W. E. Myles, White Sulphur Springs, and D. G. Preston, Lewisburg.

HANCOCK (2)—Delegates, Anthony Yurko, Hollidays Cove, and J. M. Brand, Chester. Alternates, E. R. McNinch, Weirton, and G. O. Beaumont, New Cumberland.

HARRISON (5)—Delegates, Cecil O. Post, S. S. Hall, G. F. Evans, and Wm. H. Allman, Clarksburg. Alternates, B. S. Brake, L. E. Neal, W. T. Gocke, and H. V. Thomas, Clarksburg.

KANAWHA (11)—Delegates, Pat A. Tuckwiller, John E. Lutz, John W. Hash, E. W. Squire, S. L. Bivens, R. L. Anderson, Paul H. Revercomb, H. M. Beddow, Claude B. Smith, Russell Kessel, and T. P. Mantz, Charleston.

LOGAN (3)—Delegates, Harold Van Hoose, Mallory, Fred Brammer, Dehue, and I. M. Kruger, Logan. Alternates, V. A. Deason, A. M. French, and F. R. Jamison, Logan.

MARION (3)—Delegates, John P. Helmick and E. D. Wise, Fairmont, and J. J. Jenkins, Sr., Farmington. Alternates, L. D. Norris, Fairmont, and Geo. T. Evans, Idamay.

MARSHALL (2)—Delegates, J. C. Peck and David L. Ealy, Moundsville. Alternates, Don Benson and W. Paul Bradford, Moundsville.

MASON (1)—Delegates, C. Leonard Brown, Point Pleasant. Alternate, Frank Long, Point Pleasant.

MERCER (3)—Delegates, C. M. Scott and Harry G. Steele, Bluefield, and Frank J. Holroyd, Princeton. Alternates, O. G. King, Bluefield, and J. I. Markell, Princeton.

MINGO (2)—Delegates, George W. Easley and John C. Lawson, Williamson. Alternates, Frank J. Burien and H. C. Hays, Williamson.

MONONGALIA (3)—Delegates, E. F. Heiskell, Sr., E. B. Tucker, and C. K. Sleeth, Morgantown. Alternates, J. J. Lawless and K. E. Gerchow, Morgantown.

McDOWELL (4)—Delegates, H P. Evans, Keystone, Leslie E. Dunman, Gary, A. J. Villani and R. H. Edwards, Welch. Alternates, R. E. Burger and W. R. Counts, Welch, and Boyce Elliott, Maybeury.

OHIO (5)—Delegates, C. B. Buffington, Wheeling,

PARKERSBURG (4)—Delegates, James L. Wade, Ray H. Wharton, Richard Corbitt, and F. Lloyd Blair, Parkersburg. Alternates, E. C. Hartman, Logan Hovis, R. H. Boice, and Athey R. Lutz, Parkersburg.

POTOMAC VALLEY (2)—R. W. Lowe, Moorefield, and E. A. Courrier, Keyser. Alternates, V. L. Dyer, Petersburg, and Thomas Bess, Keyser.

PRESTON (2)—Delegates, H. C. Miller, Eglon, and David Salkin, Hopemont. Alternates, J. C. Arnett, Rowlesburg, and W. P. Johnson, Jr., Arthurdale.

RALEIGH (4) — Delegates, R. E. Newman, Clark Kessel, L. M. Halloran, and Fred Richmond, Beckley. Alternates, B. K. Peter and M. M. Ralsten, Beckley, T. F. Garrett, Sprague, and W. G. Moran, Jr., Cranberry.

SUMMERS (1)—Delegate, D. W. Ritter, Hinton. Alternate, B. W. McNeer, Hinton.

TAYLOR (1)—Delegate, Paul P. Warden, Grafton.

WETZEL (1)—Delegate, A. M. Dyer, Jr., Pine Grove. Alternate, K. M. Hornbrook, New Martinsville.

WYOMING (2)—Delegates, J. F. Biggart, Mullens.

BREAKFAST LUNCHEON AND DINNER MEETINGS*

Monday, May 12

12:30—Association of Pathologists of West Virginia. Emmerich von Haam, M. D., Columbus, guest speaker. (C. C. Fenton, M. D., in charge.)

12:30—Section on Surgery. Guest speakers: James G. Arnold, M. D., Baltimore, and Norman Treves, M. D., New York City. (Thomas Bess, M. D., in charge.)

12:30—Medical College of Virginia Alumni Luncheon. Waverly R. Payne, M. D., President of the MCV Alumni Association, Newport News, Virginia, guest speaker. (Miss Anne M. Skinner, Assistant Alumni Secretary, in charge.)

12:30—Orthopedic Luncheon. (R. L. Anderson, M. D., in charge.)

6:00—Dinner, Post Surgeons, American Legion. All doctors interested in fight against rheumatic heart disease invited. (Frank V. Langfitt, M. D., in charge.)

6:00—Urological Dinner, Rose Room, Ruffner Hotel. (G. G. Irwin, M. D., host.)

Tuesday, May 13

12:30—Section on Pediatrics. James W. Bruce, M. D., Louisville, guest speaker. (Harry Baldock, M. D., in charge.)

12:30—West Virginia Heart Association, Section on Internal Medicine, and American College of Physicians. Honor guests: Walter C. Alvarez, M. D., Rochester, Minnesota; Arthur M. Master, M. D., New York City; and J. T. Beardwood, M. D., Philadelphia. (O. B. Biern, M. D., W. M. Sheppe, M. D., and D. A. MacGregor, M. D., in charge.)

12:30—Radiology Luncheon. (V. L. Peterson, M. D., in charge.)

Wednesday, May 14

8:15—E. E. N. T. Breakfast. R. Townley Paton, M. D., New York City, guest speaker. (A. C. Chandler, M. D., in charge.)

12:30—Section on Eye, Ear, Nose and Throat. Organization meeting. (A. C. Chandler, M. D., in charge.)

12:30—West Virginia Obstetrical and Gynecological Society. Louis H. Douglass, M. D., guest speaker. Round table discussion led by Doctor Douglass on the subject of "Obstetrical Anesthesia with special reference to Spinal." (E. J. Humphrey, M. D., in charge.)

12:30—Section on Industrial Health. John H. Foulger, M. D., Wilmington, Delaware, guest speaker. (J. J. Brandabur, M. D., in charge.)

*Daniel Boone Hotel unless otherwise specified.

DESCRIPTION OF SCIENTIFIC EXHIBITS

(WCHS Auditorium)

1. AMERICAN MEDICAL ASSOCIATION—"Amebiasis."

2. AMERICAN MEDICAL ASSOCIATION—"Industrial Dermatoses."

3. AMERICAN MEDICAL ASSOCIATION—"Treatment of Burns."

4. A. P. HUDGINS, M. D., Charleston—"Perineal Repair by Modified Technique." Modifications in technique for perineorrhaphy which results in minimized blood loss, adequate tissue exposure, precision, and saving of time.

5. K. G. KHOROZIAN, M. D., Pineville—"Antibodies, Bacteria, and Viruses." The exhibit demonstrates various characteristics of microkaryocytes. Photomicrographs will be shown demonstrating various actions of these corpuscles.

6. NATIONAL FOUNDATION FOR INFANTILE PARALYSIS—"Poliomyelitis." An exhibit showing services available to poliomyelitis victims; map showing number of cases in each state during 1946; and a drawing of the nervous system showing the parts affected by the virus of poliomyelitis.

7. PINECREST SANITARIUM AND DIVISION OF VOCATIONAL REHABILITATION—"Vocational Rehabilitation." Photographs and drawings showing various rehabilitation courses being conducted at the Pinecrest Sanitarium.

8. WALTER G. J. PUTSCHAR, M. D., Charleston—"Pathology of Uterus." The exhibit consists of gross specimens demonstrating the various types of uterine pathology.

LIBRARY OF THE COLLEGE OF PHYSICIANS

9. SAINT MARY'S HOSPITAL, Huntington—"Malformations and Anomalies of Surgical Importance." The exhibit presents mounted pathologic gross specimens and x-ray translucencies of malformations and anomalies of surgical interest.

10. STATE DEPARTMENT OF HEALTH—"Services Available From the State and Local Health Departments." Large central panel with State Capitol, various bureaus and divisions of State Department of Health on windows. Small local health unit in front. Eight-inch symbols attached to ribbons running from each window, depicting the specific division with services listed on them.

11. STATE DEPARTMENT OF HEALTH—"Need for Reporting Cases of Tuberculosis." Exhibit will show death rate from tuberculosis by counties, and percentage not reported prior to death.

12. WEST VIRGINIA STATE NUTRITION COMMITTEE—"Activities of the State Nutrition Committee." "Food Facts and Fallacies," a true and false quiz on nutrition problems will be featured. A model "Type A" school lunch will be shown, and pamphlets on special diets will be distributed to physicians.

13. T. W. WILLIAMS, M. D., DEPARTMENT OF ANATOMY, SCHOOL OF MEDICINE, WEST VIRGINIA UNIVERSITY, Morgantown — "Anatomical Specimens in Clear Plastics." The exhibit shows anatomical specimens mounted in "selectron" and monomeric ethel methacrylate "plexiglass". The advantages of mounting delicate specimens in plastics is shown.

14. C. C. FENTON, M. D., Morgantown—"Tumors of Lower Respiratory System." The exhibit presents gross specimens and photomicrographs of lower respiratory tract tumors, benign and malignant, removed at autopsy.

TECHNICAL EXHIBITS

Space	*Exhibitor*
8	A. S. Aloe Company
14	American Electric Company (A Division of Kelley-Koett Mfg. Co.)
33	Ayerst, McKenna & Harrison
18	Bilhuber-Knoll Corporation
5	Borden Company
37	Burroughs Wellcome & Company
16	Cameron Surgical Specialty Company
30	Ciba Pharmaceutical Corporation
3	Coca-Cola Company
19	F. A. Davis & Company
15	Doho Chemical Corporation
11	H. G. Fischer & Company
1	General Electric X-Ray Corporation
2	Kloman Instrument Company
12	Lanteen Medical Laboratories
10	Maico of West Virginia
13	D. L. Manley
32	Mead Johnson & Company
23	McLain Surgical Supply
21	Nestle's Milk Products, Inc.
31	Ortho Pharmaceutical Corporation
9	Parke, Davis & Company
28	Philip Morris & Co., Ltd., Inc.
27	Picker X-Ray Corporation
24	Pitman-Moore Company
25	Powers & Anderson, Inc.
17	Wm. P. Poythress & Company
6	W. B. Saunders Company
29	G. D. Searle & Company
20	Sharpe & Dohme
22	E. R. Squibb & Sons
34	U. S. Vitamin Corporation
26	Van Pelt & Brown, Inc.
7	White Laboratories, Inc.
35-36	Williams Medical Equipment Company
4	Max Wocher & Son Company

DESCRIPTION OF TECHNICAL EXHIBITS

(WCHS Auditorium)

A. S. ALOE COMPANY

Booth 8

The West Virginia representatives of A. S. Aloe will welcome the doctors to see their complete line of surgical, hospital, and laboratory equipment and supplies. A complete line of government surplus instruments available at present—especially selected, full certified instruments, at approximately one-half the regular cost, will be featured.

THE AMERICAN ELECTRIC COMPANY

A Division of the Kelley-Koett Monufocturing Co.

Booth 14

The American Electric Mobile Unit being displayed is an ideal unit for radiography and fluoroscopy in the office, clinic or hospital. It requires very little space, is inexpensive, and contains a unique powerhead offering an entirely new concept in X-ray service. It incorporates a replaceable cartridge eliminating the need for a serviceman.

AYERST, McKENNA & HARRISON

Booth 33

"Premarin" is a potent preparation of naturally-occurring, water-soluble equine conjugated estrogens containing sodium estrone sulphate as one of its estrogens. It combines a high degree of potency with convenience of administration and is well tolerated. It is supplied with the approval of the Research Institute of Endocrinology, McGill University, and is accepted by the Council on Pharmacy and Chemistry of the A. M. A.

BILHUBER-KNOLL CORPORATION

Booth 18

Their display includes the new vasopressor, Oenethyl; antispasmodic, Octin; sedative and mild hypnotic, Bromural; analgesic and cough sedative, Dilaudid; analeptic and antianoxiant, Metrazol; and myocardial

stimulant and diuretic, Theocalcin, as well as other dependable prescription chemicals. They are prescribed alone or in combination to meet the individual patient's requirement.

Mr. A. W. Braden in charge.

BORDEN COMPANY
Booth 5

GERILAC, a vitamin-fortified powdered milk for well-rounded nutrition in convalescence, pre- and post-operative diets, geriatrics, pregnancy and lactation, and soft and liquid diets. BIOLAC, DRYCO, MULL-SOY, MERRELL-SOULE SPECIAL MILKS, general purpose KLIM, and BETA LACTOSE, long established products for infant feeding, will likewise be exhibited.

BURROUGHS WELLCOME & CO.
Booth 37

A representative group of fine pharmaceuticals and chemicals will be displayed. Of particular interest are "NUTRAGEST", the palatable dietary compound containing the amino acids, important minerals, vitamins and carbohydrates; DIGOXIN, a pure, stable crystalline glycoside of Digitalis lanata, combining uniform potency with rapidity of action; "WELLCOME" BENZYL BENZOATE EMULSION, the 24-hour treatment for scabies and pediculosis capita; and "LUBA-FAX" brand Surgical Lubricant.

CAMERON SURGICAL SPECIALTY CO.
Booth 16

See the new Cameron Electro-Surgical Units, Coagulair-Sigmoidoscope, Electro-Diagnostosets, Flexible Gastroscopes, Bronchoscopes — Esophagoscopes — Laryngoscopes, Mirrolite, Binocular Spectacle Loupe, Magniscope and other specialties.

CIBA PHARMACEUTICAL CORPORATION
Booth 30

Ciba invites you to visit their exhibit for latest information on PYRIBENZAMINE, the new antihistaminic and anti-allergic compound; PRIVINE HC1, an effective, long-lasting nasal vasoconstrictor, and METANDREN Linguets, the most potent orally active androgenic hormone available in a suitable form for sublingual absorption.

COCA-COLA COMPANY
Booth 3

Ice cold Coca-Cola will be served to the delegates at the meeting, with the compliments of The Coca-Cola Company,—"The Pause for Refreshment" that is enjoyed at medical conventions each year.

F. A. DAVIS & COMPANY
Booth 19

A completely revised edition of The Cyclopedia of Medicine, Surgical and Specialties will be on exhibit. A new second printing of Pillmore Clinical Radiology; a new third edition of Stroud Cardiovascular Disease; a new fifth edition of Goldberg Tuberculosis; the new Lederer Diseases of the Ear, Nose and Throat; and Loewenberg Medical Diagnosis will also be shown. The third edition of Litchfield-Dembo Therapeutics of Infancy and Childhood will be ready for your examination as will the third edition of Reimann Treatment in General Medicine. Look at Alpers Clinical Neurology, Albee Surgery of the Spinal Column and the new edition of McPheeters-Anderson Injection Treatment. We hope to have Behrend Diseases of the Gall Bladder and Biliary Tract and May Reconstructive Surgery ready for you.

DOHO CHEMICAL CORPORATION
Booth 15

The makers of AURALGAN are introducing at this meeting their new sulfa drug preparation O-TOS-MO-SAN, indicated in the treatment and control of chronic suppurative ears. They will also distribute their latest series of three Anatomico-Pathologic charts of the ear, in color, suitable for framing.

H. G. FISCHER & COMPANY
Booth 11

Two very interesting units will be displayed. One, a very powerful yet compact, mobile X-ray unit with many fine new features, priced at $1,000. The other, a new Radio Short Wave Diathermy, built to comply with the new regulations of the FCC, and shown for the first time at a West Virginia medical meeting. This unit is built to last a life time. W. B. Hendershot, in charge.

GENERAL ELECTRIC X-RAY CORPORATION
Booth 1

The General Electric X-Ray Corporation extends an invitation to all members of the West Virginia State Medical Association to visit them at their booth during the meeting. Members of the Cincinnati and Pittsburgh offices will be on hand to greet their many friends and customers.

KLOMAN INSTRUMENT COMPANY
Booth 2

Our exhibit will include several new items as well as a general line of surgical instruments and equipment.

LANTEEN MEDICAL LABORATORIES
Booth 12

LANTEEN cordially invites you to visit their exhibit of well known pharmaceutical specialties. Included will be natural and synthetic estrogenic products, ESTROGEL and HEXYPHEEN. VI-TEENS products, including VI-TEENS HOMOGENIZED Vitamins, as well as their line of gynecic specialties, will also be included.

MAICO OF WEST VIRGINIA
Booth 10

A. Caleb Davis, distributor of Maico scientific equipment for West Virginia, is indeed pleased to exhibit at the 80th annual meeting of the State Medical Association. Maico will have on display the latest scientific, professional equipment such as Maico's Audiometer, Stethetron and the Atomeer. Doctors are cordially invited to stop by and inspect this fine equipment.

D. L. MANLEY
Booth 13

The Liebel Flarsheim Company's well known Bovie Electrosurgical Unit, and their latest Short Wave Generator will be on display. The latest in Low Volt Therapy,—the Teca Hydro Galvanic apparatus, will also be shown.

MEAD JOHNSON & COMPANY
Booth 32

Amigen and Protolysate will be on display at the Mead Johnson exhibit. Mead Johnson has pioneered the amino acid field commercially; the products have been described in more than one hundred and forty articles in the medical literature; this year they are available. Trained representatives will be at the exhibit to discuss details of the new amino acid products. Dextri-Maltose, Pablum, Pabena, Oleum Percomorphum and the other Mead products used in infant nutrition will also be shown.

McLAIN SURGICAL SUPPLY
Booth 23

A complete line of surgical supplies, including Burdick shortwave machines and ultra-violet lamps, will be shown.

NESTLE'S MILK PRODUCTS, INC.
Booth 21

As the latest of its many services to the medical profession, Nestle's now offers to the physician interested in infant feeding a brand new booklet, "Your Baby's Formula." This booklet is designed to fill a real need of the physician,—that of giving complete and accurate instructions to the mother on how to prepare her baby's formula. Data on the formula itself is all that needs to be supplied by the doctor.

ORTHO PHARMACEUTICAL CORPORATION
Booth 31

Ortho Pharmaceutical Corporation invites you to visit Booth 31 where they will exhibit their well-known line of Gynecic Pharmaceuticals. Samples and literature will be available.

PARKE, DAVIS & COMPANY
Booth 9

Displayed will be such outstanding products as THEELIN, MAPHARSEN, and ADRENALIN PREPARATIONS. The latest type of BIOLOGICALS will be on display. Likewise, PENICILLIN and other therapeutic agents of antibiotic, biological, and chemotherapeutic interest will be shown.

PHILIP MORRIS & CO. LTD., INC.
Booth 28

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject and problems on the physiological effects of smoking.

PICKER X-RAY CORPORATION
Booth 27

The THORAGRAPH, a new, vertical Radiographic Chest Unit, complete with photo timer for use with conventional transformer and control, will be shown, as well as a 60 milliampere capacity Shockproof Mobile Unit. This is the civilian model of the Army Field Unit.

PITMAN-MOORE COMPANY
Booth 24

This exhibit will feature a number of recent advances and improvements in pharmaceutical and biological products. However, the Pitman-Moore booth will principally be used as a place where the company's representatives may renew acquaintance with their friends in the profession.

POWERS & ANDERSON, INC.
Booth 25

The Powers & Anderson exhibit will consist of the latest and most advanced equipment, supplies, and instruments for the physician's office. All of the items on exhibit are nationally advertised and of the highest quality. The exhibit will be in charge of Mr. E. G. Johnson and Mr. Robert E. Anderson, Jr.

WM. P. POYTHRESS & COMPANY
Booth 17

A cordial welcome awaits you at the Poythress exhibit booth, which will be in charge of Mr. Harry Swinson. Descriptive literature will be available on Solfoton, T C S, Uro-Phosphate, Panalgesic, Merpectogel, and other Poythress specialties.

W. B. SAUNDERS COMPANY
Booth 6

A complete line of books including Hyman's Integrated Practice of Medicine; Bockus' Gastro-enterology; Cooke's Allergy; Rubin's Diseases of the Chest; Allen, Barker & Hines' Peripheral Vascular Disease; new editions of Wechsler's Clinical Neurology; Novak's Gynecological and Obstetrical Pathology; Beckman's Treatment; Mason's Preoperative and Postoperative Treatment; Mitchell & Nelson's Pediatrics; Jackson & Jackson's Diseases of the Ear, Nose and Throat; Cantarow & Trumper's Clinical Biochemistry; Christopher's Textbook; DeLee & Greenhill's Obstetrics; Wharton's Gynecology and Female Urology; Graybiel & White's Electrocardiology, and many others.

G. D. SEARLE & COMPANY
Booth 29

Products of Searle research, which have contributed so much to the armamentarium of the physician, including Searle Aminophyllin, Metamucil, Ketochol, Floraquin, Diodoquin, Pavatrine, Pavatrine with Phenobarbital, Gonadophysin, and Tetrathione, will be shown.

Featured will be the new Aminophyllin Supposicones, which remain stable at temperatures up to 130° F., but which liquefy readily under conditions of use.

SHARP & DOHME

Booth 20

New antibiotic preparations including "Prothricin" nasal decongestant and "Tyroderm" tyrothricin cream are being featured along with "Sulfathalidine" and "Sulfasuxidine," intestinal bacteriostatic agents. "Lyocyte" Powder, dried human blood cells and "Lyovac" Normal Human Plasma complete the items on exhibit.

E. R. SQUIBB & SONS

Booth 22

Penicillin blood levels following administration of Crystalline Penicillin G Sodium in Oil and Wax.

U. S. VITAMIN CORPORATION

Booth 34

Full color illustrated brochure "Diagnosing Vitamin Deficiencies" together with professional samples and literature on VI-SYNERAL, POLY-B, VI-LITRON, HYPERVITAM, LIPO-HEPLEX, DALSOL, DESIVER, AMIPROTE, and others.

VAN PELT & BROWN, INC.

Booth 26

Van Pelt & Brown will exhibit a number of their specialties. Literature and clinical samples will be available. You are most cordially invited to visit with us.

WHITE LABORATORIES, INC.

Booth 7

White presents information concerning White's Sulfathiazole Gum, expressly formulated for topical chemotherapy in oropharyngeal infections; White's Otomide for ear infections, and a NEW specialty, White's Mol-Iron Tablets, for treatment of iron deficiency anemias. Their ethically promoted vitamin specialties are also featured.

WILLIAMS MEDICAL EQUIPMENT COMPANY

Booths 35-36

The shockproof vertical fluoroscope "Pathfinder," Jones Waterless Motor Basal Metabolism Unit, the Cardiotron, portable direct-recording electrocardiograph will be displayed by Williams.

THE MAX WOCHER & SON COMPANY

Booth 4

Mr. L. E. Boehme will be in charge of the Wocher display which will feature their complete line of quality surgical instruments of stainless steel and stainless steel operating room furniture of all welded, polished construction.

OFFICIAL PROGRAM

23rd Annual Meeting

Woman's Auxiliary

to the

West Virginia State Medical Association

CHARLESTON
May 12-14, 1947

Hostess:
Woman's Auxiliary to the
Kanawha Medical Society

SUNDAY AFTERNOON
May 11

2:00—Registration, Daniel Boone Hotel Mezzanine.

SUNDAY EVENING

9:00—Open House, Daniel Boone Hotel, Kanawha Medical Society, host.

MONDAY MORNING
May 12

9:00—Registration, Daniel Boone Hotel Mezzanine.

10:00—Past President's Breakfast, Ruffner Hotel, Mrs. Ulysses G. McClure, Charleston, hostess.

MONDAY AFTERNOON

1:00—Registration, Daniel Boone Hotel Mezzanine.

4:00—Pre-Convention Executive Board Meeting, St. John's Parish House, 1105 Quarrier Street.

TUESDAY MORNING
May 13

9:00—Registration, Daniel Boone Hotel Mezzanine.

10:00—Formal Opening of 23d Convention, St. John's Parish House.

Invocation—Dr. George C. Vick, Pastor, First Presbyterian Church, Charleston.

Salute to the Flag

Address of Welcome—Mrs. A. C. Chandler, Charleston, President-elect of Kanawha Auxiliary.

Response—Mrs. John F. McCuskey, Clarksburg.

Roll Call

Reading of Minutes

Treasurer's Statement

Rules of Procedure

Report of Credentials and Registration

Reports

Old Business

New Business

Announcements

TUESDAY AFTERNOON

1:00—Luncheon, Edgewood Country Club.

Presiding hostess, Mrs. Randolph Anderson, Charleston, President, Kanawha Auxiliary.

Installation of Kanawha Auxiliary Officers by Mrs. D. E. Greeneltch, Wheeling.

Fashion Show, presented by the Diamond Department Store, Charleston.

TUESDAY EVENING

9:00—Reception and Dance, Casa Loma, Kanawha Medical Society, host.

WEDNESDAY MORNING
May 14

9:00—Registration, Daniel Boone Hotel Mezzanine.

9:30—Second session of convention, St. John's. Parish House, 1105 Quarrier Street.

Reading of the Minutes
Roll Call
Election of Delegates to National Convention
Report of Nominating Committee
Election of Officers
Report of Committee on Resolutions
Installation of Officers
Presentation of Gavel
Inaugural Address, Mrs. F. Carl Chandler, Bridgeport
Adjournment

WEDNESDAY AFTERNOON

1:00—Luncheon, Ruffner Hotel.

Guest Speakers: Mrs. Paul A. Davis, President, Ohio State Medical Association's Auxiliary, Akron.

Capt. George M. Lyon (MC), USNR, Huntington.

Honor Guests: Dr. Wade St. Clair, President, West Va. State Medical Association, Bluefield.

Dr. Spencer L. Bivens, President, Kanawha Medical Society, Charleston.

Drs. Hu C. Myers, Philippi; H. V. Thomas, Clarksburg; John P. Helmick, Fairmont; Scott A. Ford, Beckley; and Ulysses G. McClure, Charleston, members of the Advisory Board.

3:00—Post-convention Board Meeting, Mrs. F. Carl Chandler, President, presiding.

4:00—Tea, Executive Mansion, Kanawha Boulevard. Governor and Mrs. Clarence W. Meadows, receiving.

WEDNESDAY EVENING

6:30—Reception, Clubroom, Daniel Boone Hotel. Host, Kanawha Medical Society.

7:30—Annual Banquet, Ballroom.

9:30—Dance, Ballroom.

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PRE-CONVENTION COMMITTEE REPORTS

COMMITTEE ON CHILD WELFARE

During the past year, the Committee on Child Welfare assisted in every possible way in the state survey conducted by the Academy of Pediatrics. Active interest was shown in the budget bill recently enacted by the legislature. The Committee reports that there is inadequate provision for the mentally deficient children in the state. Custodial care for untrainable children should be improved, and a program to provide vocational training and recreation for the trainable mentally deficient should be instituted.

The Committee visited the West Virginia Training School at St. Marys and transmitted to the appropriate legislative committees the following resolution:

> "The Committee on Child Welfare of the West Virginia State Medical Association recommends to the Legislature of the State of West Virginia that money be appropriated immediately for the inauguration in the West Virginia Training School at St. Marys of a program to provide vocational training and recreation for the children confined there. This will provide a healthier environment for all, and will enable many to be returned to society and to maintain themselves economically as adults."

The Committee also met with the board of control and received the impression that the board intends to carry through such a program, if funds are provided by the legislature.

Another meeting of the committee will be held at Charleston during the annual meeting of the West Virginia State Medical Association, at which time several problems will be given consideration. It is our belief that cardiac cripples should be included in the crippled children's program, and we shall make every effort to have the program expanded to make provision for this class of crippled children.

Respectfully submitted,
HENRIETTA L. MARQUIS, M. D.,
Chairman.

* * * *

COMMITTEE FOR THE STUDY OF DIABETES

The first meeting of the Committee was held at the Headquarters of the West Virginia State Medical Association at Charleston, April 3, 1947. The purpose of the meeting was to acquaint the members with the objectives of the committee and to formulate certain plans for the carrying out of these objectives.

The Committee decided that the following subjects were suitable for study and future action:

(1) The establishment of a list of speakers conversant with the study of diabetes, who will be available for assignment to speak before county societies on request of the secretaries. It was recommended that suitable notices of this availability be published in the Journal and that the various secretaries be supplied with lists of such speakers.

(2) The furnishing of speakers for appearance before lay organizations, when so invited, to discuss the subject of diabetes. The subject matter presented by these speakers is to be approved by the Council of the State Medical Association.

(3) The preparation and publication of diabetic abstracts in the West Virginia Medical Journal each month. This was designed to furnish up-to-date information to the profession in the state on various topics related to diabetes.

(4) An analytical study of the statistics now available in the state department of health on the death rate from diabetes in West Virginia.

(5) The elaboration of a method for taking a census of the diabetic individuals living in the state of West Virginia. The method to be followed has not been decided upon but will be discussed at future meetings. No similar census has actually been taken in any state but it is believed to be important both from a statistical standpoint and as an aid to the local program to understand the scope of the problem in West Virginia.

(6) The study and standardization of laboratory procedures which are ordinarily employed in the study of diabetes mellitus. Recommendations in regard to such procedures will be published in the diabetic abstract section from time to time.

(7) A survey of the hospitals of the state (over 50 beds) to determine the number of diabetics admitted during the year 1946 and the proportion of these cases to the total number of admissions.

(8) The development of plans for the establishment of a summer camp for diabetic children. Such camps have been operated elsewhere with great benefit to those participating.

Summary

The Committee has adopted a policy for the careful study and evaluation of the problems of diabetes existing in the state of West Virginia. This will be followed by a long-range program of lay and professional education in this field. It is hoped that these efforts will coordinate the work in West Virginia with that being done by other state and national organizations and will reflect credit upon the West Virginia State Medical Association.

WILLIAM M. SHEPPE, M. D.,
Chairman,
L. R. LAMBERT, M. D.,
W. A. THORNHILL, M. D.,
F. R. WHITTLESEY, M. D.,
R. C. NEALE, M. D.

* * * *

COMMITTEE ON INDUSTRIAL HEALTH

"Health should not be a subject to be pulled apart, shoved around and bargained about."

In a recent discussion of industrial health problems, a statement was made that some of the difficulties inherent in an industrial health program are due to disagreement as to the relative responsibilities to the workers of management and organized labor; suspicion as to the motives of any health measures undertaken by management; inadequacy of health education; difficulties in delineating the functions of the medical and applied professions; confusion of "industrial health" with the employee's "morale and welfare"; and, the questions of costs and who shall bear them.

Anticipating the report of a survey that is being made of the basic industries of our state, this committee has made a study of these various phases in an effort to be of assistance to any group which wishes to avail itself of our knowledge of the situation as we see it from an industrial health standpoint.

Several members of this committee are familiar with the needs and can probably help in bringing about a correction of conditions because they are residents of some of the communities affected, and thereby can sift out the practical from any impractical suggestions.

For example, one of the criticisms that has been made is that medical practitioners in coal mining communities pay almost no attention to industrial health matters, in that it is a rarity for the mine physician to make more than a cursory occupational study of the men he treats, and only an exceptional one attempts to familiarize himself with industrial health studies which have been made in the coal mining industry. This report offers a challenge and a unique opportunity to the medical profession.

The members of this committee whose duties center in this basic industry are cognizant of the fact that this indictment should not be aimed at the medical profession. In many instances the conditions reported are beyond our control, as many times when a physician has attempted any regulated industrial health program, he has been regarded with suspicion, as interfering with the rights of employment of the individual. For example, in the question of proper placement examinations, where a physician states that in his opinion a man is not fit for a certain job, his judgment is many times considered as being biased or prejudiced in favor of management.

It is the feeling of this committee that this aura of suspicion can best be removed by the acceptance of the following recommendations:

1. In addition to preplacement examinations, annual or other periodic examinations, where feasible, should be made not only of the rank and file, but of all supervisory officials in an attempt to keep these employees working longer at their jobs rather than disqualifying them.
2. Illness and accident records should be maintained so that an industrial analysis might be available for future reference.
3. Studies should be conducted on fatigue, effect of the hours of work, relation of age to productivity, fumes from explosives and machinery, and the effects of mine humidity temperature, dust and low percentage of oxygen in the air. This study should be made by competent industrial engineers and correlated with any study made by a medical group in the community.

Since the public has no true concept of the keen interest that we as medical practitioners play in their lives, we also suggest that the practicing physician in the community be given help in promoting or teaching first aid and in giving instructions in the local prob-

lems of nutrition. He should be given an opportunity, through public health facilities, to educate the people of his community in problems of housing, water supply, food and milk supply, sewage disposal, welfare and personal hygiene. For, only through public education in public health matters can there be widespread understanding, so that the practicing physician in any industry can receive the necessary support of all concerned, and thereby prove that he is only trying to better health and usefulness to the employee in his own community.

We take this opportunity to commend heartily the work of the many doctors who, under adverse conditions, have provided medical care for our people who reside in these isolated coal communities.

Respectfully submitted,

J. J. BRANDABUR, M. D.,
Chairman,
J. L. PATTERSON, M. D.,
H. W. BROWN, M. D.,
W. F. ROGERS, M. D.,
W. V. WILKERSON, M. D.,
W. P. BITTINGER, M. D.,
GEO. W. EASLEY, M. D.,
J. B. CLINTON, M. D.,
GEO. O. NELSON, M. D.

* * * *

LEGISLATIVE COMMITTEE

The West Virginia State Medical Association did not sponsor a program in the legislature at the regular session which convened in January 1947. However, the legislative committee did take an active part in the consideration by the Senate and House of Delegates of certain legislation in which the profession was interested.

Much of the ground work for a program designed to improve conditions at our mental and tuberculosis institutions was laid by the Fact Finding and Planning Committee during the past few years, under the able chairmanship of Dr. Ray M. Bobbitt, of Huntington. That committee has also recommended other changes looking toward improvement in public health conditions in this state.

The doctor members of the Advisory Committee to the Legislative Interim Committee studying public health problems adopted a program which was submitted to the Governor. Part of this program has been enacted into law. Dr. R. J. Wilkinson, of Huntington, served as chairman of the doctor group, and many of the recommendations of the advisory committee were accepted by the interim committee and included in the draft of bills which were introduced in the legislature and later passed by both the Senate and the House. The work was done during the recent session and the list of bills passed that are of special interest to the medical profession have been made the subject of legislative bulletins heretofore mailed to all of the members from the headquarters offices of the West Virginia State Medical Association. It is, therefore, unnecessary to comment again upon the text of the bills passed.

Your committee will, prior to the end of the year, consider other proposed legislation, and the advice of the members of the Fact Finding and Planning Committee, now headed by Dr. D. A. MacGregor, of Wheeling, will be sought before any definite program is worked out.

The committee wishes to acknowledge the wholehearted cooperation and valuable aid of the members of the Kanawha Medical Society's legislative committee, of which Dr. Henry M. Escue is the chairman.

Respectfully submitted,

FRANK V. LANGFITT, M. D.,
Chairman,
RUSSELL KESSEL, M. D.,
JAMES S. KLUMPP, M. D.,
R. O. ROGERS, M. D.,
W. P. BLACK, M. D.,
WARD WYLIE, M. D.,
A. U. TIECHE, M. D.

* * * *

COMMITTEE ON MATERNAL WELFARE

The Committee on Maternal Welfare has not met during the year; however, your chairman has had a meeting with Dr. N. H. Dyer, state health commissioner, Dr. Henrietta L. Marquis, Chairman of the Committee on Child Welfare, and Dr. Isabelle Morgan, Director of the Division of Maternal and Child Health.

The establishment of additional preantal centers throughout the state was discussed. It was thought advisable to require licensed mid-wives to attend a series of lectures on obstetrics, as there are many communities where doctors are not available and deliveries are made by mid-wives.

It was decided to resume the series of post graduate lectures on obstetrics for doctors throughout the state, and plans are being made for these meetings during the summer of 1948.

The SHEMIC (EMIC) program increased and reached its peak during the year 1944. In 1946, there was a decrease of 46.6 percent over the year 1944. There is a decrease of 50.5 percent in the first three months of 1947 over the same period in 1944.

From May, 1943, through December, 1946, $638,449.65 was paid to doctors who participated in this program, and $520,575.37 paid to hospitals in West Virginia for the care of these patients.

A total of 2,741 deliveries were made in homes and 9,029 in hospitals. Deliveries by doctors of medicine totaled 10,329, and osteopathic physicians delivered 434, and mid-wives 7.

We do not know how long this program will continue, so your committee believes that some thought should be given to the future.

The maternal mortality for the period from 1943 to 1945 was 2.3 percent—2.2 percent for the white race and 3.8 for the colored. In 69.5 percent of these cases, death occurred in a hospital. This is due to the complicated cases being delivered in our hospitals.

The maternal mortality was 1.4 percent in 1946, the lowest in the state's history. We sincerely hope that this record may be maintained or improved in 1947.

Respectfully submitted,

WILBUR E. HOFFMAN, M. D.,
Chairman.

Obituaries

HAROLD CHARLES HARPFER, M. D.

Dr. Harold Charles Harpfer, 46, of Wheeling, died suddenly of coronary thrombosis April 1, 1947, at his home in that city.

Doctor Harpfer was born in Wheeling, October 7, 1900, son of John and Lillie (Theiss) Harpfer. He was educated in the public schools, graduating from Triadelphia High School in 1920; B. S., West Virginia University, 1924; and M. D., University of Pennsylvania School of Medicine, 1926. He served his internship at the Ohio Valley General Hospital in Wheeling, and was licensed to practice in West Virginia in 1926. He has been engaged in practice in that city since 1927.

Doctor Harpfer was a member of the medical staff of the Ohio Valley General Hospital and the Wheeling Hospital. He was a member of the Ohio County Medical Society, the West Virginia State Medical Association, and the American Medical Association.

He is survived by his widow, Florence (Evans) Harpfer, one son, Harold Evans Harpfer, and his parents, Mr. and Mrs. John Harpfer, of Wheeling.

* * * *

J. EDWARD RICHMOND, M. D.

Dr. J. Edward Richmond, 64, of Weirton, died March 11, 1947, at his home in that city, following a heart attack.

Dr. Richmond received his M. D. degree at the Louisville Medical College in 1905, and was licensed to practice in West Virginia in 1907. He was engaged in practice at Colliers until 1912, when he moved to Hancock County, where he continued in practice until his death. He served for several years as medical officer rural medical care, and cultist practice in West Virginia.

* * * *

THOMAS EVERETT ROMINE, M. D.

Dr. Thomas Everett Romine, 61, of Charleston, died March 28, 1947, following a skull fracture sustained when struck by an automobile the previous day.

Doctor Romine received his M. D. degree from the University of Louisville School of Medicine in 1911, and was licensed to practice medicine in West Virginia the following year. He located in Charleston, where he continued in general practice until his death.

He is survived by his widow, Mrs. Cary Romine, a sister, Mrs. Elizabeth Maynor, and a brother, W. C. Romine.

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VA Medical News

A few doctors who are participating in the Veterans Care Program have recently made inquiry concerning their right, under the V. A. program, to fill prescriptions and charge therefor in cases where no participating pharmacist is located within a reasonable distance of the veteran's home. Doctors engaged in practice in rural and some industrial areas are required to furnish drugs as part of their service in many instances, and the question arose as to the right of the doctor to charge for drugs that are not considered part of routine treatment.

It has been the policy of the Veterans Administration to require that the veteran take his prescription to a participating pharmacist to be filled, but this regulation has been modified to a certain extent. A direct ruling on the subject was recently received by the Veterans Board of Review from the chief medical director of the Veterans Administration at Washington.

Due to the fact that many participating physicians will be affected by the ruling, the letter from Dr. Robert C. Cook, acting chief medical director, Veterans Administration, to Dr. Claude B. Smith, chairman of West Virginia's Veters Board of Review, is printed in its entirety:

VETERAN'S ADMINISTRATION
Washington 25, D. C.

April 1947

My dear Doctor Smith:

Your letter of March 21, 1947, addressed to the Manager, Veterans Administration Branch Office No. 4, Richmond, Virginia, regarding the reimbursement of fee basis physicians for drugs dispensed by them, has been referred to this office for reply.

Full consideration has been given to the points raised in your letter and the geographical and population distribution of West Virginia is fully appreciated.

The instructions which have been issued to the effect that fee basis physicians who normally dispense their own drugs will not be reimbursed specifically for such drugs, are based upon the understanding that most dispensing physicians do not ordinarily make a charge for routine medication supplied. To the best of my knowledge dispensing physicians, except in unusual circumstances, include the price of medication supplied within their established professional fee. It is recognized that occasionally non-routine, expensive drugs may be indicated. In these cases it is appreciated that the high cost of such drugs would bring about an injustice if physicians could not be reimbursed when they supply such drugs.

The participation of State Pharmaceutical Associations in the supplying of prescriptoins to eligible veterans has made prescription service immediately available to all eligible veterans throughout all areas of 46 states. I am sure you will appreciate that the continuance of this very convenient pharmacy service is dependent, in part, upon proper distribution of the several professional services which veterans may require.

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(Founded April 10, 1867)

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Association of Pathologists of W. Va.

Clement C. Fenton, Morgantown, President; and W. T. McClure Wheeling, Secretary-Treasurer.

It is suggested that the issue raised in your letter may be resolved, without conflict with the basic principle of supplying drugs, by agreement to a general program somewhat as follows:

> Doctors normally dispensing own drugs should consider routine, non-expensive drugs given to patients as covered by their basic professional fee.
>
> In cases in which non-routine, expensive drugs are indicated and hardship would be involved to a Veterans Administration beneficiary if required to go to the nearest pharmacy for needed medication, the physician may supply such needed medication in quantities not exceeding five days normal requirement. Claim for reimbursement may be submitted for drugs dispensed in instances of this type.
>
> When non-routine, expensive medication will be required for more than five days, the physician should prepare a prescription for the patient which he either can mail to the nearest Veterans Administration medical avtivity or nearest participating pharmacy for filing and return by mail to the patient.

It is desired to emphasize that there is no restriction preventing dispensing doctors from writing prescriptions for any indicated medication, when authorized to treat VA beneficiaries.

I am sure you will be interested to know that the basic policy of not reimbursing physicians for routinely dispensed drugs has been accepted without objection and is in effect in each of the 46 states where the State Pharmaceutical Association is cooperating in providing prescription services to eligible veterans.

Very truly yours,

(Signed) ROBERT C. COOK, M. D.,
Acting Chief Medical Director.

The following letter from Dr. Leo F. Steindler, addressed to Dr. Claude B. Smith, concerning delay in hospitalizing veterans after authorizations have been issued by the VA at Huntington, and requesting that the VA be notified immediately in the event of a change in plans, is printed in full for the information of all participating physicians:

VETERANS ADMINISTRATION
Regional Office
824 Fifth Avenue
Huntington, West Virginia

April 4, 1947

Dear Doctor Smith:

We recently have run into a rather unusual problem which has given us serious concern. What apparently occurs is that one of the participating fee-basis physicians will call up and request hospitalization in the Mountain State Hospital, Charleston General Hospital, or some other hospital, and also request authority for treatment of the veteran in this selected hospital.

On a recent visit to your town, we were surprised to find that several hospitals had authorizations for ad-

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Here are the 3 members of the group to date:

1. *Hematest*

Tablet method for rapid detection of occult blood in feces, urine and other body fluids. Bottles of 60 tablets supplied with filter paper.

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Tablet, *no heating* method for quick qualitative detection of albumin. Bottles of 36 and 100.

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Tablet, *no heating* method of detection of urine-sugar.

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mission of veterans but were holding them in a file and the veterans had not been hospitalized. Their statement was that they had not accepted the veterans for hospitalization and were holding these authorizations until they were ready to make a decision on same, as their hospitals were only available to those physicians who concurrently referred patients to their hospital or to veterans who had been patients there previously.

Some of these authorizations were several months old, and the implication we were given was that the only reason that these physicians attempted to get these veteran patients in their hospital was because they could not get them in their own regular hospital in which they routinely had patients admitted. This, undoubtedly, is the cause of this office having so many unauthorized expenditures. I assume that possibly these physicians have placed these veteran patients in some other hospital in the meantime, and no authorization has been requested or issued to the receiving hospital for the service. In reviewing these authorizations at our office, apparently in some instances the veterans have not been hospitalized at all and are still awaiting notification.

We are wondering whether their treatment can be delayed indefinitely, particularly if they require hospitalization which would indicate, more or less, requirement of an emergency service. It is the opinion that it should be called to the attention of these physicians that in the event they change the arrangements regarding the particular hospital that the veteran patient is to enter or any other alteration is made in their management of the treatment of these ex-servicemen, we be notified immediately so that the authorizations can be changed to the proper sources and the unused authorizations cancelled. Otherwise, the situation presents at times rather serious complications.

Thank you for your kind cooperation and past courtesies.

Very truly yours,

(Signed) LEO F. STEINDLER, M. D.,
Chief Medical Officer.

VA NEEDS NURSES

According to manager S. R. Goodwin, there is an urgent need for registered nurses for duty at the Veterans Administration Hospital in Huntington. He stated that there is a shortage of nurses at present and expressed desire that nurses interested in serving with the VA communicate with C. T. Schoonover, Personnel Officer, 1540 Spring Valley Drive, V. A. Hospital, Huntington. Salaries range from $2,644 to $5,905 per annum.

In addition to registered nurses, applications of graduate nurses who have satisfactorily completed a basic course and are graduates of schools of nursing approved by the Administrator will also be accepted upon evidence that they have applied for registration in one of the states of the United States or the District of Columbia.

County Society News

BOONE

Dr. Wilbur E. Hoffman, of Charleston, was the guest speaker at the regular monthly meeting of the Boone County Medical Society, held at the Courthouse in Madison, March 19th. His paper, "Obstetrical Analgesia," was interesting and informative, and was discussed by several members of the society.

L. A. DICKERSON, M. D.,
Secretary.

* * * *

CABELL

At the regular monthly meeting of the Cabell County Medical Society, held April 10, at the Hotel Prichard, in Huntington, Dr. James Brown of the Blair-Brown Clinic, St. Louis, presented an interesting paper on plastic surgery. During World War II, Doctor Brown was plastic surgical consultant for the Army Medical Corps, and served as chief of plastic surgery at the Valley Forge General Hospital, Phoenixville, Pennsylvania.

THOMAS L. GROVE, M. D.,
Secretary.

* * * *

FAYETTE

Dr. Andrew E. Amick, of Lewisburg, chairman of the Council of the West Virginia State Medical Association, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held at the Hotel Hill, in Oak Hill, April 1. His subject was "Whooping Cough." The speaker, who is Health Officer for District No. 3, also discussed school health, rural medical care, and cultist practice in West Virginia.

At the business meeting following the scientific program, the following doctors were elected members of the society: Anne Wight, Montgomery; Walter E. Bundy, Jr., Oak Hill; and Thomas C. Sims, Fayetteville.

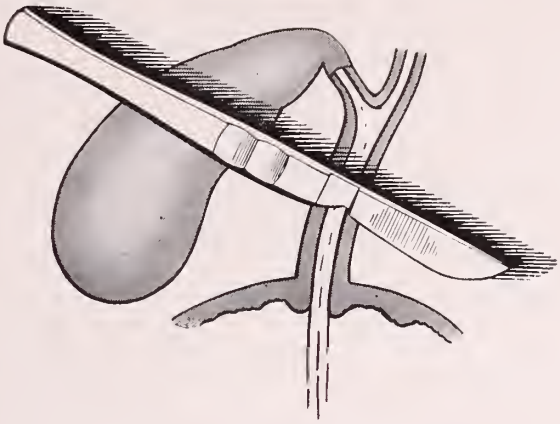
JOE N. JARRETT, M. D.,
Secretary.

* * * *

KANAWHA

Dr. H. H. Young, assistant professor of orthopedic surgery at the Mayo Foundation Graduate School, University of Minnesota, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held April 8 in the ballroom at the Daniel Boone Hotel, in Charleston. His subject was, "Combined Operation for Low Back and Sciatic Pain."

At the business meeting following the scientific program, Dr. Milton Lilly and Dr. R. A. Lewis were elected to membership in the society, and the following doctors



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were elected members by transfer: J. Paul Aliff, from Boone; F. H. Dobbs, from Ohio; and J. N. Reeves, from Fayette.

Delegates to the House of Delegates of the West Virginia State Medical Association were elected as follows:

Drs. P. A. Tuckwiller, J. E. Lutz, John W. Hash, E. W. Squire, and S. L. Bivens, for a two-year term; and Drs. R. L. Anderson, Paul H. Revercomb and H. M. Beddow, for a one-year term. Hold-over delegates are Drs. Claude B. Smith, Russell Kessel, and T. P. Mantz (secretary).

T. P. MANTZ,
Secretary.

* * * *

LOGAN

Dr. W. Carl Kappes, of Huntington, was the guest speaker at the regular monthly meeting of the Logan County Medical Society, held March 19, at the Aracoma Hotel, in Logan. He presented an interesting paper on "The Older and Newer Treatments of Goiter." The paper was discussed by Dr. A. M. French.

At the business meeting preceding the scientific program, the following delegates and alternates to the House of Delegates were elected for 1947: Drs. H. Van Hoose, Fred E. Brammer, and I. M. Kruger, delegates; and Drs. V. A. Deason, A. M. French, and F. R. Jamison, alternates.

I. M. KRUGER, M. D.,
Secretary.

* * * *

McDOWELL

A paper on the subject of "Multilocular, Chylous Cyst of the Great Omentum, its Occurrence in a Three Year Old Child", was presented by Dr. A. J. Villani, of Welch, at the regular monthly meeting of the McDowell County Medical Society, held in the Appalachian Community Room, at Welch, April 9.

At the business meeting following the scientific program, the following delegates and alternates were elected to the House of Delegates of the State Medical Association: Drs. A. J. Villani, L. E. Dunman, and H. P. Evans, delegates; and Drs. W. R. Counts, and R. H. Edwards, alternates.

Dr. Otis E. Linkous, Jr., of Welch, was elected to membership in the society.

A. J. VILLANI, M. D.,
Secretary.

* * * *

OHIO

Dr. S. M. Dubertuis, assistant professor of surgery at the University of Pittsburgh School of Medicine, was the guest speaker at the regular monthly meeting of the Ohio County Medical Society, held in the Solarium at the North Wheeling Hospital, April 11, 1947. His

"often gives dramatic relief..."

Writing on treatment in congestive heart failure, Eggleston[1] states: "The slow intravenous injection of 0.25–0.5 Gm. of Aminophyllin often gives dramatic relief."

1. Eggleston, C., in Cecil, R. L.: A Textbook of Medicine, ed. 6, Philadelphia, W. B. Saunders Company, 1943, p. 1154.

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SEARLE
RESEARCH IN THE SERVICE OF MEDICINE

subject was, "Recent Advances in Plastic and Reconstructive Surgery." The paper was discussed by Drs. J. O. Rankin and Edward S. Phillips.

C. B. BUFFINGTON, M. D.,
Secretary.

* * * *

PARKERSBURG ACADEMY

Dr. Emil Novak, of the University of Maryland and Johns Hopkins School of Medicine, presented an interesting praper on "The Uses, Limitations, and Abuses of Endocrine Therapy and Gynecology" at the regular monthly meeting of the Academy of Medicine of Parkersburg, held at the Stratford Hotel, in Parkersburg, March 6, 1947.

At the business meeting following the scientific program, the following delegates and alternates to the House of Delegates were elected for 1947:

Drs. F. L. Blair, James L. Wade, Ray H. Wharton, and Richard Corbitt, delegates; and, E. C. Hartman, Logan Hovis, R. H. Boice, and A. R. Lutz, alternates.

F. LLOYD BLAIR, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

Dr. Paul R. Gerhardt, of Charleston, director of the division of cancer control of the state health department, and Dr. Joseph Franklin, of Cumberland, Maryland, were the guest speakers at the regular monthly meeting of the Potomac Valley Medical Society, held at Burlington, April 9. Dr. J. H. Wolverton, Jr., the president, presided at the meeting, which was attended by fourteen members.

E. A. COURRIER, M. D.,
Secretary.

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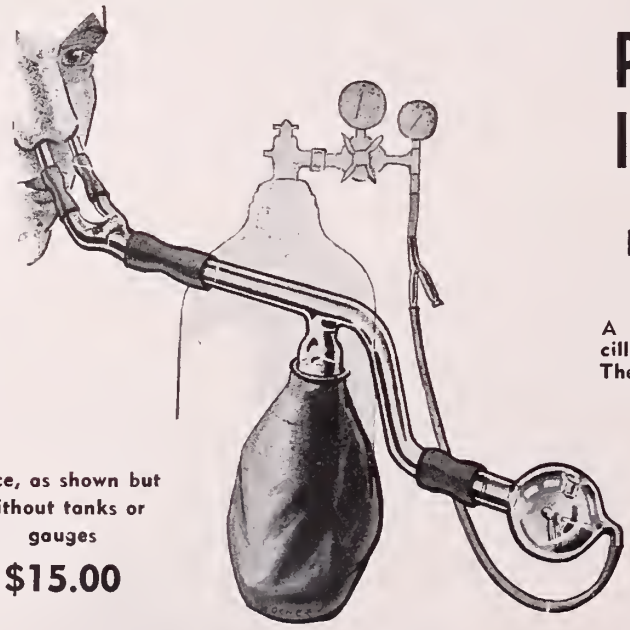

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RALEIGH

Dr. Hudnall Ware, professor of obstetrics at the Medical College of Virginia, Richmond, was the guest speaker at the regular monthly meeting of the Raleigh County Medical Society, held at Leslie's Diner, in Beckley, March 20. His subject was "Breech Presentations." The paper was discussed by Drs. R. E. Newman, L. M. Halloran, and D. D. Daniel.

FRED RICHMOND, M. D.,
Secretary.

VISIT THE EXHIBITS
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Woman's Auxiliary

HARRISON

The motion picture, "Miracle Money", was shown at the regular monthly meeting of the Woman's Auxiliary to the Harrison County Medical Society, held at the Waldo Hotel, in Clarksburg, April 3. The following officers were elected at a business meeting following the entertainment program: President elect, Mrs. L. D. Zinn; vice president, Mrs. D. P. Cruikshank; secretary, Mrs. Jack Gocke; and treasurer, Mrs. J. E. Stephenson.

MRS. JOSEPH GILMAN,
Secretary.

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RALEIGH

Mrs. J. E. McKenzie was the principal speaker at the regular monthly meeting of the Woman's Auxiliary to the Raleigh County Medical Society, held at the Beckley Hotel, in Beckley, March 17. She discussed the "Youth Program", with particular emphasis on the Girl Scouts. The remainder of the program consisted of monologues by Elizabeth Bartlett and Mary Grace Fourney; piano solos by Betty Minter and Phyliss Bowers; and a musical program by the Youth Chorus, directed by Miss Ethel Martin, accompanied by Mrs. H. V. Sloan.

A substantial sum was ordered donated to the Red Cross, and members were urged to help with the Y. W. C. A. drive. A nominating committee was appointed and report will be made in April. Mrs. Frank Harkleroad presided at the meeting, which was attended by fifteen members.

MRS. G. C. HEDRICK, Jr.
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GOVERNMENT RESPONSIBILITY FOR THE CARE OF THE MEDICALLY INDIGENT*

By W. H. ST. CLAIR, M. D.,
Bluefield, West Virginia

In this day of agitation for change in the status of medical practice, a president's address would seem out of place if it did not deal with the economic side of the practice of medicine. Thus, in accepting an expected assignment, I have no ambition to cover the whole medical care problem, but prefer rather to limit myself mainly to a phase of the problem with which most persons are in full accord. I am referring to the entrance of government into medicine to the extent of paying the cost of medical care for those persons who are not able to do so.

In facilities to provide medical care and in ability to pay the cost, I am going to assume that West Virginia is an average state, and since we are interested primarily in the welfare of the people who dwell within its boundaries, I shall attempt to show to what extent the state has provided for the care of the indigent sick and in what way an already established nucleus might be developed into a comprehensive program.

PUBLIC ASSISTANCE

The West Virginia Public Welfare Law of 1936 represented the state's first serious effort to provide for medical care of the indigent sick and placed the administration of welfare needs at the state level. The intent of the law, as someone has expressed it, is "to provide, in so far as is possible, for the permanent protection of West Virginia's citizens against the recurring misfortunes of life." There was created a Department of Public Assistance whose main functions were old age assistance, aid to dependent children, general relief, and aid to the blind. To the extent of available funds, always inadequate, a good job has been done.

It was evident at the start that medical care would constitute a considerable part of public assistance. In fact, sickness of some sort was expected to be the most frequent cause of persons being on relief rolls. The Department accordingly, in collaboration with the West Virginia State Medical Association and the West Virginia Hospital Association, adopted a plan for providing for medical and hospital care of recipients of aid. The Department accepted as sound certain policies formulated by the Council of the West Virginia State Medical Association, and the plan followed these policies. Among other things was an expressed willingness on the part of members of the medical profession to contribute their services with remuneration of only a fraction of current fees. It was emphasized that the fees agreed upon did not represent adequate compensation for services rendered and that physicians were merely willing to contribute their share in a great "humanitarian" effort. The hospitals exhibited the same sort of generosity. The plan undertook medical care in the home and in the hospital, and included acute illnesses, emergencies, and obstetric care.

DEFICIT ABSORBED BY DOCTORS AND HOSPITALS

The Department of Public Assistance is about to complete its eleventh year of operation, and we may now inquire into the matter of the extent

*Annual address of the President, West Virginia State Medical Association, 80th Annual Meeting, Charleston, West Virginia, May 12, 1946.

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of medical care for the indigent that has been paid out of tax funds and the extent of such care that has depended upon the generosity of doctors and hospitals. For the care of recipients of aid, the hospitals have been allowed $3.00 per day for medical and $3.25 for surgical cases. All items of hospital care are included except necessary x-ray examinations, which are paid for on a fee schedule which is approximately one-fifth of normal charges. For the past year the per diem allowance for hospital care has been increased to $4.50. If a patient is operated on, the surgeon may expect to be paid not more than one third of what he would charge a patient ordinarily. The obstetrician fares somewhat better and his remuneration is about 50 per cent of normal. The general practitioner fares the best of all and may claim from one-half to two-thirds of what he is accustomed to charge the public.

For a decade then, and until just recently, doctors and hospitals have accepted without protest substandard remuneration for services rendered, and the failure to appropriate adequate funds has not been altogether the fault of the legislature. With mounting operating costs, the hospitals no longer were able to carry the load, and some relief was afforded during the session of the legislature recently ended, but funds still are inadequate to pay a reasonable cost. I hesitate to be critical of a traditional generosity which always has cared for the unfortunate. At the same time, I can see no reason for doctors and hospitals absorbing the larger part of a cost which should be paid in full out of tax funds.

BROADER CONCEPT OF THE MEDICALLY INDIGENT

Except for Emergency Maternity and Infant Care which was created as a war measure and certain rehabilitation services which are available through the Department of Education, no tax funds in West Virginia are available to provide for general medical care above the destitute level. Even with adequate care at this level, there still is an economic gap in our system of medical practice, and I wish now to discuss the problem of medical care for a larger group of people who are designated economically also as "medically indigent".

Conservative estimates place at 20 or 25 per cent of the population the number of people in the United States who are not able to pay the cost of medical attention. We are too prone to think of the medically indigent as those who are destitute and on relief rolls. There is a much larger group of persons who are able to earn enough money to purchase food and shelter but who cannot afford the cost of sickness care. In the same category is an ever increasing number of beneficiaries of old age and survivors insurance, people who are living on small retirement incomes, and dependent widows and children who have no source of income except workmen's compensation benefits. Most of these people are able to keep the wolf away from the door, but it is doubtful if many of them could afford even the minimum premium cost of sickness insurance.

In a country which boasts the best medicine in the world, no one would deny that every person is entitled to the benefits of good medical care. And yet we have to admit that these benefits are not within the reach of a good many of our people.

FEDERAL GOVERNMENT PARTICIPATION

I would be in full accord with the idea that each community be responsible for its own medical problems if the idea would work. But it will not. Even for the care of the destitute, it has not worked at the county level and has not been adequate at the state level. We may as well face the facts then and accept the federal government's entrance into medicine to the extent of paying or helping to pay the cost of medical care for those persons who are not able so to do.

THE TAFT-SMITH-BALL-DONNELL BILL

The solution of the problem would appear to be the passage by the congress of the Taft-Smith-Ball-Donnell bill. This bill (S-545) was introduced February 10 and was referred to the Senate Committee on Labor and Public Welfare. Besides creating a National Health Agency which would coordinate all federal health activities in one agency, the bill provides for general medical care for families and individuals with low incomes by federal grants to states having approved plans. The grants would be administered at state levels. The bill is designed to reduce federal control to a minimum and specifically prohibits federal interference with administration of state programs which have been approved.

In introducing the bill for himself and his associates, Senator Taft made the following comment: "The bill we are proposing proceeds on the theory that the United States already has a comprehensive medical service, as good as any in the world, but that there are gaps in the service, particularly in reaching the lower income groups. Our bill encourages and assists every state to fill up these gaps, building upon the existing foundation. Free service will be furnished to those unable to pay."

SUPPORT BY THE MEDICAL PROFESSION

In this cryptic comment, it seems to me that Senator Taft is expressing the viewpoint of more than 90 per cent of the members of the medical profession and an equally large per cent of members of all other groups concerned in the delivery of medical care. The existence of a "comprehensive medical service" is admitted, and the federal government enters the picture only to the extent of filling economic gaps. The practice of medicine as a free and independent enterprise, unfettered by bureaucratic control, is assured. The legislation should have the backing of the medical profession, and I hope I may elicit the full support of each member of the West Virginia State Medical Association in a campaign as individuals to inform the public and our national law makers as to the purposes of the proposed law.

WEST VIRGINIA'S PARTICIPATION

Let us suppose now that the pending legislation, in substance, will be acted on favorably by the congress. How, then, will West Virginia enter into the picture? First of all, there must be a plan which will be approved by the National Health Agency. In the formulation of a plan, representatives of the public and of the various groups who provide medical care would participate. The State Department of Public Assistance, enlarged and probably revamped, would be the administrative state agency. Rules would be flexible, with the minimum amount of red tape, and the amount of assistance in a given case would depend upon the recipient's resources, if any, and the extent of needed medical care. The services rendered would be paid for on an agreed rate and fee schedule which would conform to customary minimum charges. Since the federal government's position would be one of encouraging and assisting the states in bridging a gap, West Virginia would be expected to match dollar for dollar whatever grant is available from the federal government. This would call for a legislative appropriation something like five or six times the size of the amount now appropriated for medical care for persons on public assistance. The necessary appropriation of tax funds may seem large, but the investment would be sound if it gives assurance that no person would be denied the benefits of good medical care.

VOLUNTARY INSURANCE FOR THE MAJORITY

In featuring government responsibility for care of the medically indigent, I want to emphasize that this is but one phase of the overall medical care problem and that we must be equally concerned with an arrangement by which people of average means are able to pay the cost of medical care without hardship to any one. In order to accomplish this, the cost must be distributed and paid by large groups on an insurance basis. The insurance principle, in fact, no longer is a debatable issue, and the question now is whether we are going to copy an old world system of compulsion or retain free enterprise and solve the problem by voluntary insurance.

HOSPITAL AND MEDICAL SERVICE PLANS

Nearly two decades ago hospitals, with foresight better than that of individual doctors, commenced to offer hospital care on a prepayment plan. The idea spread rapidly until now Blue Cross plans are nearly everywhere an accepted part of community life and have passed the 25,000,000 mark in affording to the public protection against this phase of medical care cost. Private insurance companies, sensing at once the popularity of hospital service plans, entered the sickness insurance field and now are selling to a large segment of the population contracts on an indemnity basis to cover the cost of both hospital care and the larger costs of the services of doctors. County and state society-sponsored nonprofit medical service plans came at a later date, but they are in full swing now and promise to attain the same popularity as Blue Cross plans. With the full and active endorsement of the American Medical Association and with the wholehearted support of each member of the medical profession, these companion Blue Cross and medical service plans constitute the best answer to the demand on the part of a few for a compulsory insurance system.

A PERSISTING MENACE

Events in the past six months indicate a shift in government definitely to the right, and for some time to come the clamor for socialized medicine is expected to be less vociferous. The menace still is present, however, and we should not be lulled into complacency and believe that the battle for free medicine has been won. In a day of social change consciousness, which would promise security from the cradle to the grave, a political party of whatever complexion might easily make socialized medicine a political issue, and it would be most unfortunate for the American people, without appreciation of its false hopes and knowledge of its evil consequences, to have thrust upon them an old world system of compulsory insurance. To forestall such a catastrophe, the medical profession has a large share of the responsibility. In the last analysis, legislation is influenced, if not formulated, by

public opinion, and as individuals and as a united group, we should use every means at our disposal to inform the public that, with the bridging of economic gaps, medical practice under free enterprise is the best in the world and would deteriorate under any system of socialization. In thus keeping the practice of medicine free and unfettered, we shall have rendered a great service.

NEUROLOGIC DIAGNOSES

The aversion that the average general practitioner has for neurology is well known. The writer heard this sentiment expressed at all kinds of meetings, in jest as well as in semi-serious mood, but the implication was always there, namely, that neurology is a sort of riddle to the average doctor and the solution had best be left to the specialist in this field. The writer was always rather concerned about this attitude of the medical profession, but in recent years the conviction grows upon him more and more that it is positively a source of great difficulty and it behooves each one of us to acquaint ourselves at least with the fundamental principles of neurology, and thus avoid many embarrassing situations.

This is especially true since the scientific writer or columnist has made his way into the lay press of the land. Nowadays every new scientific discovery in general, and medical in particular, is immediately reported in the press, and while they are usually lauded unduly and prematurely, quite often the descriptions are rather accurate. The public is thus acquainted in a general way with the newer trends in medicine. So the physician must also keep abreast of the times and know at least something about all the latest developments. It stands to reason then that his knowledge of the fundamentals of neurologic and psychiatric subjects, which seem of late to have a greater interest for people generally, must be particularly adequate.—Max H. Weinberg, M. D., in Pa. Med. J.

EARLY AMBULATION AFTER SURGERY

The hazards of phlebothrombosis of the veins of the lower extremity and pelvis and pulmonary embolus are well known after surgery in older people, especially when prolonged recumbency is necessary. The extreme importanc of early ambulation in this group after surgery has long been known and cannot be overemphasized.

There have been many series of cases recently reported, showing the value of early mobilization after various types of surgery in all ages. Powers has reported 500 postoperative abdominal cases of all types, some of these being operations as large and serious as gastric resections, and Whipple 1,000 similar cases, in which the patients were out of bed on the first or second day after operation. The average hospital time for the 1,500 cases was five days less than the hospital time for similar cases treated with bed rest and in Powers series the patients returned to work in four weeks less time. The postoperative complications were 50 per cent.

These statistics certainly afford convincing evidence of the value of early ambulation after surgery.—Alfred R. Shands, Jr., M.D., in Delaware State Medical Journal.

THE TREATMENT OF SIMPLE AND COMMINUTED FRACTURES OF THE HEAD OF THE RADIUS

By C. B. BUFFINGTON, M. D.,*
Wheeling, West Virginia

The treatment of a simple fracture of the head of the radius by aspiration and early mobilization often has been described and is carried out in several clinics, but it is our impression that the procedure is not widely used and needs further emphasis. This presentation will have to do primarily with remarks regarding simple fractures of the head of the radius in young adults. Such fractures frequently are not recognized.

CLINICAL MATERIAL

It was our privilege to treat early and by aspiration simple fracture of the head of the radius in 92 persons and to observe nine cases of similar fracture treated by means of plaster immobilization during a two year period in an Army hospital in England. Three severely comminuted fractures of the head of the radius also were treated, and our ideas in the handling of such cases will be mentioned, although they exemplify principles which are generally accepted. We were able to follow 32 cases of simple fracture for at least one year, usually taking four roentgenograms during that period. With the exception of a few cases, all were followed for several months with one or two postfracture roentgenograms.

Simple fracture of the head of the radius usually is the result of an indirect blow such as might occur from falling, with the weight thrown on the outstretched hand. For example, the American soldier, unfamiliar with the hand brakes of the English bicycle, frequently sustained such an injury when he was tossed over the handlebars to land on his outstretched and fixed hands and arms. A large number of the fractures in this series were incurred in such a manner, and in three such cases the injury was sustained in both arms. Such a fall usually resulted in a simple fissure fracture or a wedge-shaped impaction of a portion of the "clothespin" head of the radius. It is our impression that these fractures usually are of the impacted type and that there is therefore a widening of the joint space rather than a narrowing. It is not generally recognized that marked hemarthrosis occurs.[1] These fractures are intercapsular and the hemorrhage from the fracture line takes place in an enclosed space. A large amount of blood will come from a very

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small fracture, and in some cases in which it was difficult to see the fracture line on the roentgen ray photograph, as much as 25 cc. of blood was aspirated.

The diagnosis usually can be suspected from the history given. There is severe pain localized about the elbow and marked limitation of all elbow motion. In all but the very obese individuals the bulging capsule can be palpated anterior and lateral to the head of the radius. Roentgenograms always should be taken in three planes, that is, in 135 degrees of supination, as well as in the routine anteroposterior and lateral views.

TREATMENT

Treatment by aspiration is a simple procedure and usually can be done in the office. Prepare the skin of the elbow region aseptically, and place the arm on the table with the elbow in right angle position. An imaginary line then is drawn from the ventral fold of the elbow to the tip of the olecranon. At a point approximately halfway between these two sites the bulging capsule usually can be felt anterior and lateral to the head of the radius. After a wheal is established in the skin with 1 per cent novocaine, an 18 or 19 gauge needle is introduced perpendicularly or pointing 10 to 15 degrees to the posterior of the forearm. There is a space approximately ⅛ inch in width between the head of the radius and the capitellum of the humerus. The needle should be introduced to a depth of 1 to 1½ inches, depending on the size of the individual's arm, and it is not difficult to ascertain when the needle passes through the capsule. In the average case, 20 to 30 cc. of blood will be aspirated, and with a little experience one can easily tell when all the blood has been evacuated from the joint. The patient will be able immediately to carry out practically full motion and will have very little pain. Aspiration is facilitated by introducing 5 cc. of 1 or 2 per cent novocaine which may or may not be left in the joint. It is our opinion that convalescence is not altered by either procedure, as the following experiment illustrates: In the three cases of bilateral simple fracture of the head of the radius, one elbow was used as a control in each case. In these cases, after aspiration of the joint had been completed, 5 cc. of 2 per cent novocaine was instilled into one of the joints. The patients were not told of this difference in treatment, and were questioned repeatedly about pain, and their ability and willingness to move their elbows was observed. There seemed to be no appreciable difference in the result, either immediate or later.

Following aspiration, the arm is carried in a sling for three to five days. The patient is instructed to remove the sling and carry out all motions of the joint to the point of pain four times a day, but emphasis is placed on the fact that the arm should be left at rest the remainder of the time. The use of ice packs the first day or so and then heat does not seem to influence the result. All cases should be seen daily for the first week. If limitation of motion and pain recur, aspiration should be repeated. Some cases may need to be aspirated three times. Each subsequent aspiration will yield proportionately less blood.

There was not a single case which showed any calcification of the capsule or excess callus formation. All cases that were treated by aspiration recovered full motion and function in three to six weeks. In the average patient all soreness had subsided and full function was obtained within a four-week period. An initial aspiration done 36 hours or longer after injury is not effective because clotting has occurred and complete evacuation of the hemarthrosis is impossible.

The nine patients with simple fracture that were not treated by aspiration had incurred their injuries on the Continent. Full arm casts had been applied before they were evacuated to England. We removed all casts upon arrival and instituted careful and diligent physical therapy. Convalescence in these patients was slow and there was generally 15 degrees of limitation of extension present in the elbow eight to twelve weeks following the injury. Four of these cases showed calcification of the capsule six to twelve weeks after injury. It is our belief that it is the calcification of the capsule which limits motion and not the slight displacement of fragments or roughening of the articular surfaces.

In two of the cases under our care there was a simple transverse fracture through the neck with impaction but with little displacement. We advise conservative treatment in such fractures. No hemarthrosis occurs, and aspiration of the joint will yield no blood since the fracture line is outside the attachment of the capsule.

COMMINUTED FRACTURES

The principles of treatment of severely comminuted fracture of the head of the radius are well established. We would like to mention, in passing, four points for emphasis:

(1) In cases in which the patient's condition will permit, surgery should be carried out immediately, even in the presence of skin abrasions.

(2) When radical surgery is indicated, remove the entire radial head and neck back to a point just proximal to the radial tuberosity. This extensive resection is necessary in order to secure a good result, except in cases in which a small wedge of the head is separated and displaced. (3) Insist upon early active motion after resection of the head of the radius. (4) Radical surgery four to six weeks after injury will not materially improve elbow motion or function.

CONCLUSIONS

The procedure of aspirating the blood from an elbow joint after the head of the radius is fractured follows the surgical principles which have been employed in removing the blood from a hemothorax or from a hemarthrosis of the knee. These latter two procedures are widely recognized and generally accepted. Although Postlethwait,[2] in 1945, presented for the first time the subject of aspiration in cases of fracture of the head of the radius, the method is not well known nor is it frequently being carried out. We regret that we did not have the opportunity of following our cases long enough to determine what bone changes eventually would occur. Since the treatment described affords such dramatic relief from pain and allows early return of function it is our hope that the procedure will become better known and more widely used.

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MODERN CONCEPT OF HEREDITY

At the present time, geneticists cannot offer any help to preventive medicine. There is, however, no reason for the pessimism of F. J. Kallman and M. A. Bigelow who fear that "the less able strains in a nation might become ripe for conquest by some abler nations."

In the evolution of plant and animal kingdom, the struggle of life competition has extinguished inferior mutants and let survive fit races only. Without eugenics, science has progressed, living standards have risen, duration of life has doubled, because the effects of physical, socio-economical and cultural factors of environment have been explored and utilized for the benefit of the individual. For a long time to come the progress of preventive medicine will depend entirely on the efforts to study the environmental effects upon men. One must agree with G. D. Stoddard who said that "if a social system can unleash such forces in a population biologically mongrel in type our efforts may center less in the putative quality of human materials and more in the opportunities for stimulation and development."—H. Neuer, M. D., in Ill. Med. J.

DIAGNOSIS AND MANAGEMENT OF CHRONIC CHOLECYSTITIS AND CHOLANGITIS*

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At one time chronic cholecystitis was considered to be the result of bacterial inflammation exclusively. In recent years, however, various workers have shown that the histologic changes of chronic cholecystitis may be produced by nonbacterial inflammation. This includes the changes resulting from reflux of pancreatic juice into the gallbladder and the local cytotoxic effect of highly concentrated bile. This paper is concerned mainly with chronic cholecystitis and cholangitis which are the result of bacterial activity.

The staff members of The Combined Medical and Surgical Clinic for the Study of Biliary Tract Disease at the New York Post-Graduate Hospital have intensively studied this problem of infection for the past seventeen years. The general routine of the Clinic is as follows: After a history has been taken and a physical examination carried out, a roentgenogram of the gallbladder is made. The icterus index, the Van den Bergh, the total cholesterol and the cholesterol ester tests are made routinely. In indicated instances a complete battery of liver function tests also is used.

A duodenal drainage then is performed. Twenty-five per cent magnesium sulphate and olive oil are used as the stimulating agents. Each specimen of bile is examined microscopically for evidence of bile stasis, i. e., cholesterol or calcium bilirubinate crystals, and bacterial cultures are made. The following organisms are considered significant in duodenal drainage, and are listed in order of importance:

B. coli, B. typhosus, B. welchii, B. proteus, Streptococcus, and Staphylococcus aureus.

The following organisms are considered contaminants: Micrococcus catarrhalis, yeast, Pneumococcus, B. influenzae, diphtheroids, Staphylococcus and Streptococcus in the absence of free HCl. in the stomach, and mixed cultures (usually more than two varieties).

The cases in the Clinic were classified under the various stages of biliary tract disease. In chronic noncalculous cholecystitis, infection was found preoperatively in 10 per cent of cases. At

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operation, infection was also found in 10 per cent. In chronic calculous cholecystitis, infection was found preoperatively in 18.6 per cent of cases and at operation in 20.2 per cent. In chronic cholangitis with common duct stones, infection was found preoperatively in 65.5 per cent of cases and at operation in 72.7 per cent. The varying incidence of infectious organisms in different stages of biliary tract disease is an important observation. However, an understanding of the influence of infection in various stages of gallbladder disease and the proper methods of treatment to employ because of this factor are of far greater importance.

The prime factor common to the various experimental methods producing cholecystitis was obstruction of the free flow of bile. Clinically, also, we believe that obstruction, whatever the cause, is the most important factor present. This applies, no matter what stage of biliary tract disease has been reached when the patient first seeks medical attention. Up to the present time, whatever means of therapy have been employed, that directed toward the relief or removal of the obstructive element has been the most important. Our conclusion is that therapy without the correction or removal of the obstructive element is doomed to failure.

RECENT ADVANCES IN CANCER TREATMENT

During the last ten or fifteen years advances in certain of the fundamental aspects of surgery have made it so much safer that it is today possible to attack cancer far more vigorously. Improved anesthesia today permits the surgeon to operate for a far longer period of time without excessive shock. Operating on the surface of the body we can work comfortably for five or six hours. This permits us to do much more thorough and better dissections. It is fair to say that this improvement in anesthesia has been the most important single factor in the recent rapid development of thoracic surgery and the attack on lung cancer.

The improved facilities for blood transfusion have been of much assistance to the surgeon in his attack on cancer, for they have certainly lowered the mortality from operative shock.

The abdominal surgeon has found a strong defense against his old enemy, intestinal obstruction, in the use of the Abbott tube. Abbott is gone, struck down himself by malignant disease, but his discovery is saving lives every day of patients who have had gastric or bowel resections for cancer.

The frequency of local recurrence following many types of operations for cancer that have been done in the past can leave no doubt about the desirability of surgeons taking advantage of their newly found technical advantages. Our course, indeed, is clear. In many forms of cancer where radiation has failed to cure or has given only a limited percentage of cures, and where a more radical surgical attack is possible, we must have the courage to develop it, no matter how mutilating it may be.—C. D. Haagensen, M. D., in Bulletin of the New York Academy of Medicine.

CAUSALGIA*

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The term causalgia describes a bizarre syndrome of severe burning pain in association with vasomotor and trophic changes of an extremity following injury to peripheral nerves. In 1872 Weir Mitchell[1] wrote as follows of observations made on wounded men of the Civil War: "Perhaps few persons who are not physicians can realize the influence which long continued and unendurable pain may have on both body and mind. Under such torments the temper changes, the most amiable grow irritable, the bravest soldier becomes a coward, and the strongest man is scarcely less nervous than the most hysterical girl. Nothing can better illustrate the extent to which these statements may be true than the cases of burning pain or, as I prefer to term it, causalgia, the most terrible of all tortures which a nerve wound may inflict."

From this it would seem that causalgia is a disease of war and indeed it is encountered chiefly as the result of wounds of war. However, less severe but definitely related states are seen in civil practice and have been dscribed under such terms as Sudech's atrophy[2], painful osteoporosis[3], minor causalgia[4], et cetera. It is not related, however, to the painful amputation stump or phantom limb, or to painful arthritis. In many instances the complaints are much in excess of those usually expected from the extent and nature of the injury. This, coupled with the fact that many injured persons have some selfish motive such as the escape of military duty or monetary gain, is apt to lead the physician to believe that the patient is hysterical or malingering. This very common error stems from a general lack of information concerning the role of the autonomic nervous system in the production of pain. Early recognition is the keynote to success in the treatment of causalgia, for delay often leads to irreversible changes in the wounded part as well as to the psyche of the patient.

The purpose of this paper is to describe the diagnosis and treatment of causalgia and its related states and to present arguments concerning the pathologic physiology which still is obscure.

The material upon which this paper is based consists of 105 cases observed in military service which previously have been reported[5,6] and an untabulated number seen in civil practice.

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*Presented before the Cabell County Medical Society, at Huntington, West Virginia, January 9, 1946.

SIGNS AND SYMPTOMS

The incidence of causalgia among the war wounded ranged from 2 per cent to 5 per cent of patients with peripheral nerve injuries. Almost without exception the patient had received a penetrating wound of an extremity. In many instances there is intense burning pain in the distal part of the extremity from the moment of impact. In others the onset of pain is delayed several weeks. Without exception the nerve injury is incomplete and in most cases the median or sciatic nerve is involved. The pain is always referred to the distal part of the extremity but not confined to the skin zone of the injured nerve, though usually it is more intense there. The patient is never free of pain during waking hours. The pain will subside in intensity when the patient is quiet, but is greatly increased by the slightest emotional stimulus. Touching the bed, moving a chair, tearing paper, a draft of cold air, sudden anger, or loud noises evoke an unbearable paroxysm of pain.

Patients usually go to what appear absurd extremes to protect the painful part from motion or contact. The facial expression reflects intense suffering. The emotional reaction is reclusive. Soldiers who have been absent from loved ones for long periods show no interest in family or friends, preferring the solitude of a quiet dark room. Many find comfort in moist applications to the part. This is so remarkable that some keep the part swathed in wet cloths at all times. There are cases on record[7] where soldiers kept both boots filled with water, for dry socks served to produce pain. Others protect the part in a soft dry cloth such as flannel or silk.

During the painful stage many evidences of psychoneurosis are noted. These disappear, however, when the pain is relieved and psychiatric interviews show no higher incidence of neurotic stigmata in patients who have had causalgia than in those who have not.

The objective findings vary remarkably. It is difficult to evaluate the nerve injury because of the patient's protective attitude. The vasomotor and trophic changes are of two general types. In one type there is vasoconstriction, the skin is cold, thin, and glistening, the part sweats profusely, there is almost complete loss of hair, the fingers are tapering, and the nails long and clawlike. In such cases, the application of warm, moist cloths provides some comfort. The development of high fever, either natural or induced provides transient relief. In other patients there is vasodilatation. In these cases the skin of the affected part usually is dry, scaly, warmer than that of its apposite members, and the hair is long and coarse. Cold applications provide some comfort, and the application of heat or the development of fever exaggerates the pain. Many patients show joint stiffness of a crippling degree brought on by disuse and painful splinting.

X-ray examination usually reveals demineralization of the small bones of the painful part. This demineralization is not always spotty as described in Sudech's atrophy.

TREATMENT

While it has been recognized for many years that the autonomic nervous system is involved in causalgia, little progress was made in the treatment of this disease in World War I. Many surgical procedures[8] were undertaken without success. Neurolysis, repeated resection of neuromata, proximal section of the affected nerve, chemical injections of the nerve, resection of arteries, and periarterial neurectomy and posterior root section were not successful. There are a few authentic cases of relief of minor causalgia following periarterial neurectomy. In certain cases the pain will subside with the passage of time, but many patients never recover and go on to irreversible deterioration of personality, permanently crippled extremities and to morphine addiction.

The work of LeRiche[9] in 1920 pointed out the role of the sympathetic nervous system in the production of causalgia. Since then, sporadic reports of relief following sympathectomy have been published[10]. During World War II, however, many reports by British[11] and American[12] surgeons threw great light on this syndrome.

The pain of causalgia always is induced by injury, usually a penetrating wound but occasionally a closed injury. It is greatly intensified by emotional stimuli which cause increase in efferent stimuli from the hypothalamus. The extremity may show vasodilatation or vasoconstriction and quite variable trophic changes, yet the subjective complaints are identical. Furthermore, the pain is relieved in either type of sympathectomy. Resection of the injured portion of the nerve will relieve the pain, yet this is rarely required, for in many instances the extent of nerve injury is minor, and if pain is controlled the residual disability is minimal.

The complaint of burning pain is voiced at times by patients who do not have true causalgia and it is as important to recognize the condition in these cases, lest they be subjected to unnecessary surgery, as it is to insure accurate recognition of the causalgic syndrome. The diagnosis of

causalgia can be unerringly made when all the following criteria are present: (1) burning pain in an extremity after injury to a peripheral nerve, in association with vasomotor and trophic changes in the part, (2) aggravation of pain by emotional stimuli, and (3) instant and complete relief of pain by chemical block of the sympathetic chain, the relief enduring only for the period that the chemical is effective. (Prolonged relief following this procedure should engender some skepticism.)

The treatment of causalgia now is well defined. Interruption of the sympathetic chain results in immediate and complete relief of pain. The trophic changes subside more slowly. The chain may be interrupted by chemical block with procaine. Alcohol or other cauterizing solutions are not widely used because of undesirable side-affects.

Certain writers[13,14] report lasting cure of causalgic pain by single or repeated procaine injections of the sympathetic chain. My own experience does not coincide with this. It is true that many patients obtain marked improvement but none have been observed who were permanently relieved by this procedure. In fact, certain patients that have formed the basis for case reports of cure by procaine block have required operation at my hands later for persistent though relatively mild pain.

Procaine block now is used in our clinic for diagnosis only in causalgia, though the procedure is recognized to have considerable therapeutic merit in certain other conditions.

Having established the diagnosis of causalgia, surgical sympathectomy should be performed. When the seat of pain is in the arm, the conventional preganglionic cervicodorsal sympathectomy of Smithwick is done; for the leg, resection of lumbar ganglia 2 and 3 usually is adequate. In occasional instances, due to anomalous innervation, removal of the first lumbar and even the lower dorsal ganglia may be required in order to provide complete sympathetic denervation of the leg.

When the sympathectomy is complete the pain is relieved. Of 105 patients operated on in the military service all except nine were completely relieved by the primary operation. Each of these proved to have incomplete sympathectomies. Two were incomplete because the surgeon had inadvertently removed the fourth rib instead of the third when the arm was involved, and in the other cases, in which the leg was the site, part of the sympathetic supply proved to come from the first lumbar or lower dorsal ganglia when only the second and third lumbar ganglia had been removed. Each of these patients was relieved of pain when the sympathectomy was completed.

DISCUSSION

The theories advanced to explain the pain mechanism of causalgia are legend. Some writers have held that vasodilatation is the mechanism; others that ischemia as the result of vasoconstriction is the cause. Lewis[15] believed that the pain emanated through a third set of nerves which he called "nocifensors". Infection in the wound has been considered a factor. Trauma to blood vessels and the nerve fibers of blood vessels has served as an explanation to some, and many feel that the disease is entirely psychogenic. None of these hypotheses is valid, as shown by the data already presented.

The theory recently advanced by Doupe, Cullen and Chance[16] seems more tenable for their arguments are supported by clinical evidence and all available laboratory data. These workers believe that the pain of causalgia arises from the shortcirculting of efferent impulses from the sympathetic nervous system into the sensory nerves. The fact that causalgia is seen only in incomplete lesions of nerves and that it is most common in injuries to those nerves which have a high proportion of sympathetic fibers in their structure, i. e., the median and sciatic, supports this assumption. The pain is increased by emotional stimuli because the impulses flowing from the hypothalamus are greatly increased by emotion. If the bombardment of stimuli is so great that sympathetic paralysis is produced it may be associated with vasodilatation. On the other hand, if the bombardment is less severe, sympathetic stimulation with vasoconstriction may be noted. Furthermore, experimental studies after division of various portions of the sympathetic and central nervous systems as well as clinical experience would support this view.

The sympathetic fibers are unmyelinated. The sensory fibers of the major nerve trunks, however, are myelinated. As a result of trauma to a nerve, the myelin may be fragmented instantly, or, as the result of contusion, may be absorbed over a period of several days or weeks. When the myelin sheath is lost, either by instantaneous or delayed fragmentation, impulses which course down through the sympathetic fibers can be readily shunted into the somatic component. Since the frequency and potential are different, it well may result in a painful state.

The conclusions as expressed in this paper are based almost entirely on war experiences, and the results indicate that causalgia is a clinical entity which can be cured by surgical interruption of the sympathetic chain. The questions then may be asked, what is the relationship of this disease to the painful dystrophies seen in civil practice, and why does not sympathectomy always afford relief in those cases? I shall try to answer.

Almost without exception the patient suffering from true causalgia has wounds to major nerve trunks. Only occasionally are the more distal portions of the nerve involved. In civil practice, vasomotor dystrophies such as Sudech's atrophy, et cetera, are more prone to occur after minor injuries to the distal portions of an extremity, and often after crushing injuries, rather than after penetrating wounds. The disruption of function attendant to the first group is so severe that the entire extremity is immediately crippled as the result of pain, and with the passage of time the patient's emotional state deteriorates also. Fortunately, this disease was recognized as curable by sympathectomy prior to the development of many casualties in the last war, and a directive prohibiting the use of opiates was issued. Furthermore, the patients reached the hands of trained surgeons in a comparatively short time and were treated by sympathectomy. Thus was avoided the hazards of morphine addiction and the crippling psychic trauma associated with prolonged pain, also the joint stiffness which, in most instances, was due to disuse as the result of painful splinting.

In the less severe states such as Sudech's atrophy, much smaller nerves usually are involved, and the shunt of shortcircuiting of impulses is comparatively less in volume so that often in the beginning the complaints are misconstrued as a sprain or contusion. As the pain continues, the demyelinization may increase. Then two factors come into play: (1) The amount of pain increases, and (2) the patient's tolerance for pain is proportionately reduced. In many instances the patient may obtain opiates for the control of pain, and under the circumstances he is extremely vulnerable to addiction. With rare exceptions, the patients with causalgia whom I have seen in civil life, whose symptoms were of six months' duration, already were addicted to opiates. The only patient in whom the criteria cited were found who was not benefitted by sympathectomy was a woman who was already using large doses of morphine daily. Even she was relieved for a few days. It is believed that her present complaint of pain emanates from the drug habit.

SUMMARY AND CONCLUSIONS

The clinical syndrome of causalgia consists of severe burning pain in a part in association with remarkable vasomotor and trophic changes resulting from an injury to a peripheral nerve. The pain is aggravated by emotional stimuli and may be promptly and completely relieved by chemical or surgical interruption of the appropriate portion of the sympathetic nervous system. It is believed that the pain can be explained on the basis of shortcircuiting of action impulses from the sympathetic to the somatic nervous system as the result of demyelinization at the site of incomplete nerve injuries. The cases of causalgia seen most commonly in war are clear cut and well defined but are believed to be similar in origin and mechanism to many less severe states seen in civil practice and described under such titles as Sudech's atrophy, painful osteoporosis, and the so called minor causalgias. True causalgia and the less severe related states can be relieved by appropriate sympathectomy done early. The selection of cases for surgical sympathectomy can be determined by novocaine block of the appropriate portion of the sympathetic chain. If relief of pain exists for the period that the chemical effectively interrupts the transmission of impulses but returns when this period is past, sympathectomy may be expected to provide prompt relief. An occasional patient is reported to be relieved by repeated novocaine blocks. However, it would appear to the author that prolonged relief following procaine block of the sympathetic chain must be regarded with skepticism in choosing patients for sympathectomy.

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CURARE

In 1943 curare burst on an astonished but receptive anaesthetic world. Astonished, because of the ease and simplicity with which it is administered; anybody capable of giving an intravenous injection could now produce a replica of a spinal anaesthetic so far as the abdominal surgeon is concerned. Receptive, because the imperfection of methods up to that time was fully realized. The skill required, and the time consumed by local anaesthetic techniques, coupled with the frequent and unpleasant cardiorespiratory and neurological sequelae of spinal anaesthesia, assured any reasonable alternative a welcome.

Curare has passed its early clinical trials with flying colors, and dozens of enthusiastic reports have been published from all parts of the world. Its site of action is now well known. Instead of breaking the reflex arc in the manner of a regional block by interrupting the nerve pathway, curare prevents the muscles themselves from responding. Curare is of tremendous importance to anaesthesia and surgery, and it is unfortunate that its long-term investigation and appraisal is being hampered by shortage of supplies.

The only source of the raw material is central South America, and it is intolerable that the availability of such a boon should depend on the moods of native witchdoctors, themselves swayed by all the imponderables of jungle magic. Substitutes, natural or synthetic, are urgently needed.

Many substances are already known which have curare-like properties. These mostly belong, chemically, to the group designated by Ing as "onium salts"—a generic term for cations of the ammonium, phosphonium, and sulphonium type of the general formula $(CH_3)_4N^+$.

At least two substances, beta-erythroidine and quinine methochloride, have been tried with success on human subjects for the relief of myotonic conditions. The freedom from side-effects which characterizes curare prompts the hope that such synthetics as the quaternary ammonium salts, which have a similar chemical structure to curare, will be given a clinical trial.—**The Lancet.**

MODERN INFLUENCES IN MEDICAL PRACTICE: UNDERGRADUATE MEDICAL EDUCATION*

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Between undergraduate medical education and medical practice there exists a relationship that has several reciprocal aspects. To medical educators is assigned the responsibility for the selection of likely candidates for medical practice as well as the administration of a curriculum which best provides the basic professional training needed for general practice or preparation in a specialty. On the other hand, the form and content of this curriculum should be conditioned by the main trends in medical practice.

Medical students are the practitioners of the future. Consequently, it is the concern of medical schools that their educational services be designed not only to meet what might appear to be present requirements but to anticipate, if possible, those of the near future.

At this forum, it is my purpose to consider some phases of the quantitative adequacy of modern medical education in meeting needs of medical practice. Reference to its qualitative adequacy must of necessity be brief and frequently only implied.

In measuring quantitative adequacy one must begin by examining the source of the future purveyors of medical services. In the prewar years, an average of 12,000 candidates applied for admission to approved American medical colleges each year. Approximately 5,700 were selected and 4,900 were graduated. From so large a source of selection one might assume that virtually all places in freshman classes were filled by completely satisfactory candidates. Unfortunately, this has not been the case. The growth of the fundamental sciences and the rise in social prestige of other professions have made it difficult for medicine to compete as well as it did in the past for the brightest young men in our colleges. One might ask, is there something wrong with the present form of medical practice as now organized that is unattractive to some potential candidates for medicine? Are there limitations to opportunities in practice, in research and clinical investigation? Are science courses in American colleges and high schools so badly presented that prospective students lose interest?

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*Read at the 20th Annual Meeting of the National Conference on Medical Service, Chicago, February 9, 1947.

Suggestions that may increase the number of adequate candidates for medicine are these: The first is the award of scholarships and loans by local, state, and federal government to deserving young men and women unable to afford the cost of a medical education. Residents of rural areas should be favored in the award of such grants. The rising cost of tuition and the longer period of house officer training are combining to make the trail our future associates must follow more hazardous from the financial point of view. Medicine, alone among the professions, deprives a man of a livelihood for six to ten years.

A second suggestion is the recommendation that positive encouragement be given prospective women applicants. Women have been discouraged from starting premedical studies because of the relatively small number that have gained admission to American medical colleges. Until recently women represented only about 5 per cent of the total enrollment of medical students. During the latter part of the war many more women were accepted and, in the present first year class, women comprise 12 per cent of the total. There is little doubt that an untouched reservoir of good doctors can be found among women students.

Before discussing the question, "Do We Need More Doctors?", it is well not only to emphasize the relative paucity of fully adequate first year applicants but also to call attention to the obvious corollary that medical care in this country hardly will be benefited by graduating more doctors unless there is assurance that the quality of the product not only can be maintained but improved.

In the United States there are sixty-nine approved medical schools which grant the M. D. degree. Their graduates totalled about 5,700 in wartime, but this number now will fall to about 5,000 each year. (The higher complement during the war came as the result of a 10 per cent increase in the admission rate, requested by the military services.) In the five year period before the war, an average annual increment of 818 graduates of foreign medical schools was licensed. This number already has sharply declined (209 in 1946) but may increase again in the near future. If we assume that 8 per cent of our annual output of doctors will come from foreign unapproved medical and osteopathic schools, as at present, it can be predicted that each year approximately 5,400 new doctors will replace the 3,600 who die, the latter figure being an average for the last five years. This means an annual net gain of at least 1,800 physicians which doubtless will continue for some time.

In the United States there are said to be 195,000 physicians supplying the needs of 140,000,000 people — or one physician for every 718 persons. This crude method of estimation ignores the number of physicians who are retired and those partially inactive by reason of age or illness. It is an unsatisfactory yardstick to measure the quantitative adequacy of national health care when there is little uniformity in the distribution of doctors, what with their concentration in the city and the smallness of their numbers in suburban and rural areas.

Many physicians are engaged in activities that do not involve them as direct dispensers of medical care to the general public; still others are in military service, public health service, and the Veterans Administration. Medical education, industry, and insurance claim the interest of not a few. The participation of so many physicians in these fields significantly reduces the number of those available to care for civilian practice. In these several directions the annual net increment of 1,800 physicians is partially expended. Despite these deviations it seems undesirable to alter the present physician-population ratio until efforts to achieve a better distribution of doctors and their services are successful.

It is extremely difficult to estimate the number of physicians needed to provide complete medical services for a given community. Yet on such data will depend our ability to reach an approximation of the number of physicians to be trained annually.

Among other factors, consideration must be given the following: Will medical practice continue predominantly in its present form — each physician functioning more or less independently with his personal private practice — or will group medicine largely supercede the traditional method?

Do not the implications of group practice suggest that by reason of cooperative efforts there is economy in the use of medical personnel? Physicians united in a group may be able to care for a larger number of patients than they could if not so organized. If American medical practice were to be modified largely as group practice, this might significantly alter the present number of physicians needed per unit of population. But, there is still another factor that would affect such an estimate. The nature and organization of group practice are such as to favor the provision of preventive as well as curative services. If, in group practice arrangements, preventive medical services are offered in their fullest sense, a

larger number of physicians might be required for the same population unit. This need would be reflected in the national picture and it might be necessary to increase the enrollment of medical students.

The inclusion of a broad program of preventive services probably will add to the cost of medical care, already great. Over a period of years this larger investment will reap the dividends of better health and in the long run may prove less expensive.

The ability of the American people to purchase medical care is pertinent to this discussion. As medicine has become more effective, its cost has risen. We may expect that both will continue in upward trend. Because of the unpredictable occurrence of illness, a large segment of the population is unable to meet the costs of medical treatment. Through enrollment in one of the many voluntary prepayment plans that are fast developing there is expectation that this situation will be eased in part. Approximately five million subscribers have been enrolled in plans sponsored by state and local medical societies. Sixteen million are Blue Cross subscribers. As experience accumulates it is hoped that a much more complete form of coverage will be made available.

It is quite evident that the parallel developments of prepayment insurance and group practice go hand in hand. Prepayment insurance is more easily organized and distributed through an arrangement with a group.

There is a strong trend toward group practice in this country. In a survey conducted among physicians in military service, Colonel Lueth reported that somewhat more than half expressed a preference for group practice. A large number of groups now are in the process of formation.

Unfortunately, there is not as yet sufficient experience in organized group practice to answer the following questions: How many physicians are needed to care for a given unit of population of a size sufficient to support the group on a prepayment basis? How many family doctors and how many specialists? What would be their relation to one another? What would be the scope of the family doctor's interests and responsibilities? What would it cost?

An experiment in the field of group practice and and comprehensive prepaid medical care is the Health Insurance Plan of Greater New York which is about to start functioning. This organization will contract with groups of physicians who agree to accept the care of subscribers and their families who have voluntarily enrolled as employed groups. Complete care will be given with the exception of some forms of chronic illness and dental service. The annual fee for Blue Cross hospitalization and the physician's services is expected to be $41 per employee, $82 for one dependent and $120 for the family. Half of this fee will be paid by the employer and the other half deducted from the subscriber's pay check. This will mean $60 for the employee's entire family for virtually complete coverage. On the basis of the experience of others, one group that expects to operate under the Plan assumes that to care for 40,000 patients, fifty full time doctors or their equivalent in part time service will be needed. It is not necessary that any of the doctors be on a full time basis. Eighteen family physicians, four internists, two pediatricians, five obstetrician-gynecologists, five general surgeons, ten surgical specialists, one radiologist, one pathologist, one psychiatrist and so on might be an appropriate set-up. These figures are mentioned because interestingly, they assume a ratio of one doctor for every eight hundred patients and indicate some idea of the different types of physicians required.

Remuneration for the doctors will range from $5,000 to $15,000 and will average $10,000.

I believe it is the responsibility of medical schools to foster experiments that may offer methods of enhancing the effectiveness of medical practice as well as those which would insure better distribution of medical and health services. Group practice, voluntary prepayment insurance plans, and complete medical coverage are the experiments of the moment that require testing. The investigative talents of a medical school faculty preeminently qualify them for a study that requires the same objective measurement as do laboratory experiments. Medical students should be taught not only the scientific aspects of medicine, but should have first-hand experience with all distributive forms of medical care and with group practice in particular.

A medical school has the facilities to provide the undergraduate with an opportunity to observe critically the operation of a prepaid group clinic by family physicians and specialists providing complete and continuous care in the hospital and home to the patient and his family. Such care should include not only curative treatment but a positive program for maintenance of health.

Compare this suggestion with the current system. At the present time virtually all clinical

training is centered in and limited to the wards of teaching hospitals. Many students will spend an additional four years or more on the same or similar wards as house officers. How narrow may become their point of view by this continuous and restricted exposure to one side of medicine — that of serious episodic illness? How else can we implant the seed of a broad interest in family health except by providing exposure to the home environment and to doctors engaged in such practice? This exposure should continue through house officer training as well. With such a foundation we might hope that specialists of the future will retain these interests and acquire some points of view of the general doctor.

There is justified concern that the general or family doctor will be lost in the rush of specialization. The family doctor is so uncertain of his future that few medical students now aspire to enter general practice. The proposed experiment enhances the importance and place of the family doctor in the group and allows for determniation and definition of the proper use of his skills.

In conclusion, may I suggest that medical educators defer consideration of increasing the annual number of graduates until more equitable distribution of those now available is accomplished. It is essential that there be experiments in group practice of all kinds. A variety of voluntary prepayment insurance plans offering complete coverage is needed. Medical schools of their very nature are well qualified to foster and take part in such experiments. May I call your attention to the widening concept of the role of medical schools — from a place where undergraduates heard lectures on medical topics to a share in the leadership of raising standards of medical care? This has ranged from demonstrations in rural health such as the Bingham Associates Plan in Maine to assistance to the Medical Department of the Veterans Administration on a national scale.

How will medical educators help meet this greatest challenge — high quality comprehensive medical care at a rate that the American people can afford?

ASLEEP IN 13 MINUTES

Scientists have found that it takes only from two to four seconds to pass from wakefulness to sleep under the most favorable conditions. If the sleeper is physically exhausted, the time is shorter. A horizontal position, with the body well supported, the eyes closed and the mind calm, constituted the more important of "favorable conditions." The average adult, however, takes about 13 minutes to go to sleep.—Hygeia.

TUBERCULOSIS ABSTRACTS*

THE CARE AND EDUCATION OF THE TUBERCULOUS PATIENT IN THE HOSPITAL

The care of a patient in any institution is dependent upon the physical facilities of the hospital or sanatorium; the proper balance of staff; and the quality of the staff. An adequate budget is necessary but money is not the entire answer. A well-equipped sanatorium may still be a cold, unsympathetic place. There must be an *esprit de corps* that starts at the top and carries through to every worker in the place.

The importance of a proper balance of staff is self-apparent. There must be enough physicians, enough nurses, a satisfactory dietetic service, enough social workers, enough rehabilitation workers, and enough accessory attendants to carry on the work properly.

Preemployment training and experience are desirable, and training should be continued throughout the period of employment. There should be frequent and regular staff conferences, not for the physician alone, but for the entire administrative group, the nurses, social workers, and rehabilitation workers. Not only medical and surgical treatment, but problems of discipline, emotional instability and psychological approaches should be discussed. The staff should all learn to think as a unit. As a result, when a physician advises a patient and the patient asks the same question of the nurse or the social worker, there will be agreement among them. Some may feel that only a doctor should discuss medical subjects, and that nurses, social workers, and others should always refer such questions to the doctor. That is true if the answers are difficult but no doctor ever loses prestige when his staff gives him informed backing and support.

In the treatment of tuberculosis the work of the doctor, the nurse, the social worker, and the rehabilitation worker so dovetail that they are frequently helping with the same thing. All four "practice medicine" in some way, whether it be in treatment, care, or maintaining the proper mental equilibrium of the patient. All four do a certain amount of nursing service. All four may be drawn into the domestic problems usually handled through the social worker. And all four take a part in rehabilitation. The direction and supervision of the work should be clean cut, but the better understanding, the more effective will be the cooperation between staff members.

The care of the patient, then, does not depend upon physical facilities alone; it depends primarily upon the sympathetic understanding and cooperation of every person involved. This can only exist in a harmonious, well-trained, well-informed, interested, and intelligent staff.

The other half of the work is the education of the patient which is carried on through personal contacts of the staff, talks and lectures, books and periodicals on tuberculosis, sanatorium publications and visual aids of all kinds. The education of the patient starts with the day that the diagnosis is made. Then the first shock is received, and the patient's little world crumbles around him. Often he loses everything for which he has worked, saved, and planned. Usually he enters the sanatorium in a condition of mental chaos.

*Issued monthly by the National Tuberculosis Association and furnished through the courtesy of The West Virginia Tuberculosis and Health Association.

It is the job of every person who is in touch with this patient to sympathize, to help, to encourage, and to gain his confidence. The hope and assurance of recovery must be instilled, his family problems must be met, and his rehabilitation started at this time.

At first the patient is too stunned to appreciate or understand the rules of the game, but his education must start right at the beginning. It is important that the attitude of every staff member should be that of a teacher, giving the patient the hints and the rules which will be short cuts to recovery. Optimism should be the keynote.

When the first shock has worn off, the patient is in the mood to be a pupil in our school for tuberculosis. He will listen to other patients and get distorted ideas; he will listen to anyone and everyone. It is important, therefore, that his information be authentic. The lectures given, the books furnished, and the sanatorium publications all play an important part. If the staff is well trained, the questions can be intelligently answered. Each department head should take part of the responsibility for delivering talks and lectures.

The patient should be taught how tuberculosis develops, how it is diagnosed, and how it can be prevented. He should understand the different types of treatment and the objective of these treatments. He should be made to realize that his cure is within himself. He should be taught how the disease is spread and how to protect others. When this is done, we have reduced the hazard nearly 90 per cent. The patient should realize the importance of follow-up examinations long after discharge. He should know the length of time that it takes before he will be well, even after returning to a productive life. Too often the patient is discharged with a good prognosis from an institution, but because his education has been incomplete, he becomes careless and, as a result, his tuberculosis recurs.

The responsibility for patient education does not belong to doctors alone. It is the responsibility of every nurse, every social worker, and every rehabilitation worker who comes in contact with the patient. The sanatorium should not be a jail, but it should be a school for the education of the patient, and discipline is just as important as medication and treatment. A well-educated patient who leaves the sanatorium with consent, and is well on the road to recovery, seldom breaks down again. It is the careless patient who didn't learn the lesson who comes back to be readmitted.

Let's Improve the Care and Education of the Tuberculous Patient in the Hospital, Howard W. Bosworth, M. D., Transactions of the National Tuberculosis Association, 1946.

COOPERATION BETWEEN DOCTOR AND DENTIST

Dentistry today is not an isolated profession, a mere mechanical craft replacing lost tooth structure with metal or plastic materials or making restorations of lost teeth.

The mouth with its structure is as much a part of the human body as the circulatory, the respiratory, and the cardiovascular systems. None of these can be pathologically or therapeutically isolated and treated as a separate entity without regard to its relationship to the rest of the body. And the dentist is no more an isolated practitioner than is the ophthalmologist, the gynecologist, the surgeon, the internist, or the psychiatrist.

The dentist needs the cooperation of the physician today more than ever, since it has been conclusively established that many symptoms of organic derangement manifest themselves in the dental structures. The practitioners of other branches of medicine need the cooperation of the dentist no less.—Anna P. Boudin, D. D. S., in J. American Medical Women's Assn.

APPENDICITIS MORTALITY DECREASES

The mortality from appendicitis has been cut by more than one half in the past five years and by almost three fourths in the past decade among the Industrial policyholders of the Metropolitan Life Insurance Company, according to the company's Statistical Bulletin for January, 1947.

The age-adjusted death rate in 1946 was 3.2 per 100,000 (ages 1 to 74), as compared with a rate of 7.1 in 1941 and 11.5 in 1936. There is good reason to believe that within the next few years appendicitis will be reduced to a very minor cause of death in our country, and that medical science and public health administration will close another important chapter in their history.

The situation now is a far cry from that about a decade and a half ago, when appendicitis, with about 18,000 deaths a year in the United States, was a serious and challenging problem. The death rate from the disease was mounting even though hospital facilities were growing and improving and medical and surgical skills were making marked advances. Intensive studies of case records showed that the case fatality from appendicitis was usually very low when the patient was treated before complications set in, but that the risk of death increased rapidly with delay in treatment.

Marked advances in the medical care and the surgical treatment of patients have also played a large part in reducing the death toll from appendicitis. In very recent years chemotherapy has probably been the outstanding factor in further reducing the mortality from the disease. There appears to be no evidence that the incidence of appendicitis is decreasing; in fact, the figures available seem to point the other way.

THE ASTHMATIC CHILD

The asthmatic child is one of the most important patients seen in pediatric practice. He is the child often deprived of routine sports, made to miss school because of illness, forced to forego many foods, and last but not least, if not diagnosed early, may develop physical handicaps which frequently jeopardize his future in a gainful occupation.

As a small infant he may present signs of colic, vomiting, diarrhea and constipation. Excessive sneezing and a blocked nose may produce nursing difficulties. And during the winter months he may have croup and several attacks of so-called pneumonia.

One group of several hundred asthmatics revealed that 20 per cent had eczema as an infant, and that 50 per cent of the eczemtous children developed asthma. From these observations, we can appreciate the fallacy in the old saying, "Don't worry, mother, your baby will outgrow his eczema." Therefore, we, as physicians in the management of eczema cases, should realize that we are not only correcting a skin condition but are, also, trying to minimize a later asthma and the complications of other allergies.—Ralph Bowen, M. D., in The Mississippi Doctor.

The President's Page

For many years the famous Greenbrier Hotel at White Sulphur Springs was a convention Mecca. The State Medical Association was all set for its annual meeting there in 1942, but plans had to be abandoned at the last minute because the hotel had gone to war to serve for the duration. In the second year of peace doctors had visions of journeying back to White Sulphur, but the Greenbrier was still having face lifting operations on account of war wounds and is not available until 1948. Charleston, as it so generously had done before, came to the rescue in 1947 and served as host.

If some of the glamor of the Greenbrier was missing, it was more than offset by Charleston's hospitality. The Kanawha Medical Society and its Auxiliary lacked nothing in the way of entertainment from open house on Sunday to banquet and dance Wednesday evening. If a person failed to have a good time, it was just his own fault. I for one would like to go back to Charleston.

The scientific program continued to follow a pattern which was developed in 1942 and which received so much favorable comment at the time. Various sections still participate in the arrangement and presentation of the program, but all sessions are general sessions and are well attended. Frank Holroyd and his committee are to be congratulated on the appearance on the program of so many men outstanding in their various fields and the presentation of a diversified list of subjects of interest to every doctor.

Besides the well rounded scientific program, highlights of the convention were addresses by Dr. H. H. Shoulders, President of the American Medical Association, Hon. Chapman Revercomb, United States Senator from West Virginia, and Marjorie Shearon, PhD., consultant to the U. S. Senate Committee on Labor and Public Welfare. From all three speakers one could obtain renewed assurance of some sort of end to bureaucratic control in Washington and the preservation of competitive enterprise and free and unfettered medicine in the United States.

Dr. Thomas Bess, president elect, is one of the most popular doctors in West Virginia. For many years he has taken part in various activities of the State Medical Association. He has always done a good job and he is exceptionally well equipped to head the medical profession in West Virginia in 1948. The best I can wish for him is the same sort of generous support which has been given me. I predict that Tom Bess will make a good president.

W. H. H. Clark

President.

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THE PRESIDENT ELECT

Dr. Thomas Bess, of Keyser, president elect of the West Virginia State Medical Association, is a native West Virginian, having been born at Hinton. He completed his academic training at West Virginia University and received his M. D. degree at the College of Physicians and Surgeons, Baltimore. He was licensed to practice medicine in West Virginia in 1914. He has been a member of the State Medical Association since 1928, and has served as president of his local society. During World War I, he served for sixteen months in the medical corps of the army.

For years, Doctor Bess, who is one of the state's leading surgeons, has successfully operated the Potomac Valley Hospital, at Keyser. With the return of doctors to civilian practice at the close of World War II, he at last had the opportunity to devote more time to the problems of organized medicine, serving actively as a member of Association committees. His election as president is a tribute to one who has always had the best interests of medicine at heart. He will follow in the footsteps of Dr. Wade H. St. Clair, who is doing a magnificent job as president. We know that he will prove to be a worthy successor, and he will carry with him to this office the very best wishes of all the members of the State Medical Association.

ORCHIDS TO KANAWHA

No entertainment program ever before provided at an annual meeting has excelled the brand offered by Kanawha Medical Society, at Charleston, during the annual meeting in May.

From the opening reception on Sunday night until the closing waltz was played at the annual ball on Wednesday, nothing was left undone by the local entertainment committee and the members of the Society to see that everybody had a good time.

The Sunday night reception started the meeting off in high gear, and there was an exceptionally large attendance at the first session Monday morning. The daily "open house" at the Daniel Boone, the dance at the Casa Loma Tuesday night, the reception at the Governor's Mansion, and the "preliminaries" to the annual banquet Wednesday evening, are things we shall never forget.

Kanawha has set a pattern that can well be followed by other societies in the future. The expression, "I want to come back to Charleston" became almost a chant as the meeting drew to a close. The praise for tops in entertainment was genuine and sincere. Thanks, Kanawha, for a wonderful time.

BACK TO THE GREENBRIER

The 73rd annual meeting of the West Virginia State Medical Association was held in 1940 at the Greenbrier, world-famous resort, at White Sulphur Springs. All was ready for the 75th meeting in 1942, when the Army took over, and the Greenbrier almost overnight became Ashford General Hospital, where thousands of wounded soldiers were given medical care during the war.

It is welcome news that the State Medical Association is to return to the Greenbrier in 1948. It will be a bigger and better Greenbrier, and the best in entertainment is promised.

With a good scientific program and adequate hotel accommodations, we can all look forward to a few days of real rest, recreation, and relaxation.

RECORDS FALL

For ten years, Clarksburg has held the record for the largest doctor attendance at any annual meeting of the West Virginia State Medical Association. In 1937, 512 doctors were registered at the meeting held in that city. The near-

est approach to that number was reached last year at Huntington when the registration totaled 429. By the end of the second day of the 80th annual meeting in Charleston, there was no doubt that a new record would be set, and when the books were closed on Wednesday afternoon, 551 doctors had been registered, an all-time high for the Association. The guest registration totaled 80, bringing the overall total to 631, at least 100 more than the attendance at Huntington last year.

There are several reasons for the increase in attendance. First, we have more than 100 doctors back in civilian practice, doctors who last year were still in military service. And, second, there is a desire on the part of many to take advantage of the benefits to be derived from scientific sessions featuring doctors prominent and widely known in their particular fields of work. The attendance then, is no surprise, and if the program in 1948 is prepared as carefully as the one just presented in Charleston, the attendance at the sessions in White Sulphur Springs will be surprisingly high.

Another record should not go unnoticed. The report of the executive secretary, compiled as of May 10, and printed in this issue of the Journal shows a total membership of 1349, which is another all-time high. Last year at the same time, the membership totaled 1302.

The number of component societies on the 1947 honor roll is exceptionally high, twenty-one having reported a fully paid-up membership. But sixteen members have failed to pay their 1947 dues. Congfiratulations to the membership as a whole for helping to make the present year one of the very best in the history of the State Medical Association.

RETROSPECT

The 1947 convention is history, but the part played by our exhibitors will not be forgotten for a long time.

When it was found that the meeting would have to be staged elsewhere than at the Greenbrier, and when the invitation of the Kanawha Medical Society was accepted with the full knowledge that exhibits would have to be set up apart from the auditorium where scientific sessions were to be held, less courageous exhibitors than those booked for 1947 might have cancelled their reservations for space. However, there was not a single cancellation and several applications had to be declined on account of lack of space.

As it was, the greatest number of technical exhibitors ever to attend an annual meeting were represented in the WCHS auditorium. For the most part, the registration at the various booths was satisfactory. True, the registration did not equal that at Huntington last year, when the exhibits were arranged in a space adjoining the auditorium where scientific sessions were held. Those who visited the exhibits this year were genuinely interested in the displays. There was no crowding in the aisles. The layout itself is a "natural", and the only improvement that could be made would be to provide a hall in the auditorium where scientific sessions might be held. The representatives from the various firms and companies exhibiting cooperated to make the convention a success. The display was without doubt the best ever arranged for an annual meeting.

THE NEW PROGRAM COMMITTEE

Late in May, Dr. Thomas Bess, president elect of the West Virginia State Medical Association, announced the appointment of the new Scientific Work Committee. This committee will arrange the scientific program for the 81st annual meeting at the Greenbrier, at White Sulphur Springs, July 12-14, 1948.

Dr. Russell B. Bailey, of Wheeling, is chairman of the committee, and the other members are Drs. W. W. Point, of Charleston, and George F. Evans, of Clarksburg.

This is a splendid committee, the members of which have had years of experience in the practice of their profession. All are active members of their local societies and the State Medical Association, and each has wide acquaintanceship among the doctors of the country.

We commend Doctor Bess for his wise choice of members of this important committee, and we congratulate these doctors for the opportunity they will have to be of real service to all the members of the West Virginia State Medical Association.

OLD AGE

The old age group is pyramiding by leaps and bounds. The aged not only participate in our changing social order but their presence initiates social and economic changes which carry serious health hazards. Since people who live beyond the age of fifty must grow old and since the healing of the old is difficult, everything possible should be done to keep them happy and well. What they need and want more than anything else is an opportunity for useful employment and the resulting independence. Enforced idleness leads to discontent, psychological imbalance results and physical disability is apt to follow.

Our social and economic conditions, including urbanization of our populations and age retirement in industry, should be studied with reference to the aged. Between the time of forced retirement and the period of helpless senility there must be something better than old age pensions.—J. Oklahoma St. Med. Assn.

General News

DR. THOMAS BESS NAMED PRESIDENT TO SUCCEED DR. WADE H. ST. CLAIR

Dr. Thomas Bess, of Keyser, is the president elect of the West Virginia State Medical Association. He was the unanimous choice of the members of the House of Delegates for the post and was elected at the second session held May 13, in the Shrine Mosque, at Charleston.

Dr. Spencer L. Bivens, of Charleston, president of Kanawha Medical Society, was named first vice president, and Dr. Harold Van Hoose, of Man, second vice president.

Treasurer's 21st Consecutive Term

Dr. T. M. Barber, of Charleston, was reelected treasurer for his 21st consecutive term. He was first elected to this office at the 59th annual meeting in Morgantown in 1926, succeeding Dr. Hugh G. Nicholson.

Dr. Ivan Fawcett, of Wheeling, was reelected A. M. A. delegate, and Dr. James L. Wade, of Parkersburg, A. M. A. alternate.

New Councillors

New councillors were elected as follows: First district, Dr. Russell B. Bailey, of Wheeling, to succeed Dr. R. D. Gill, of that city; second district, Dr. Fred Whittlesey, of Morgantown, to succeed Dr. Carl E. Johnson, of that city; third district, Dr. E. H. Hunter, of Webster Springs, to succeed Dr. E. A. Trinkle, of Weston; fourth district, Dr. James S. Klumpp, of Huntington, to succeed Dr. Walter C. Swann, of that city; fifth district, Dr. J. C. Lawson, of Williamson, to succeed Dr. N. H. Dyer, now state health commissioner, formerly of Bartley; and, sixth district, Dr. D. C. Ashton, of Beckley, to succeed Dr. W. P. Bittinger, of Summerlee.

None of the councillors whose terms expire December 31, 1947, were eligible for reelection, all having served two consecutive terms. All of the present members of the committees on maternal welfare and child welfare were reelected. The chairman of each of these committees is to be appointed by the new president. All of the elected officials will take office January 1, 1948.

Resolutions Adopted

Seven resolutions were presented at the first session of the House of Delegates, and the following committee on resolutions was appointed by the president: Dr. Thomas L. Harris, chairman; and Drs. Guy H. Michael, Frank V. Langfitt, Frank J. Holroyd,, and, L. M. Halloran. The report of the resolutions committee was adopted at the second session of the House of Delegates on May 13, and the resolutions reported favorably are printed in full elsewhere in this issue of the Journal.

Amendments Rejected

All of the amendments to the constitution proposed at the annual meeting in Huntington in 1946 were rejected. One new amendment to the constitution was proposed by Dr. V. L. Chambers, of Huntington, and will lie over for one year. This amendment provides that councillors shall be elected at each annual meeting by the delegates from their respective councillor districts. The constitution now provides that officers of the Association shall be elected by the House of Delegates at each annual meeting.

VA Program for Medical Care

Some opposition developed to the renewal of the agreement with the Veterans Administration, providing for a veterans care program in this state, in which over 850 members of the West Virginia State Medical Association are participating as fee-designated physicians.

Dr. Thomas Bess and Dr. Wade H. St. Clair

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Sharp criticism was voiced because of the ruling that doctors located in Huntington, Martinsburg, and other West Virginia cities where there is a veterans hospital, clinic, or sub-regional office, cannot be authorized to furnish out-patient care or treatment that might be available at such veterans hospital, clinic, or branch office. The president was directed to appoint a committee to consider the problem and report back at the second session of the House of Delegates. The committee was composed of Dr. J. J. Brandabur, chairman; and Drs. Andrew E. Amick, S. S. Hall, and Claude B. Smith.

Doctor Brandabur submitted a report for the committee in which it was set forth, among other things, that, "in one of the facilities an out-patient clinic has been established to render all types of services, with the understanding that these clinics are to be established throughout other large centers as soon as enough physicians are available to sign for fulltime service."

It was asserted in the report that "we are opposed to this method of handling the medical problems of the veteran, because it denies him his fundamental right of free choice of physician."

The committee recommended that some effort be made "to contact the individuals responsible and in a conference to discuss the matter in all its implications, as we feel that it is not the intention of the administrative leaders to force their ideas upon our profession, and that they are merely trying to solve their own problems."

Following the submission of the report of the committee, it was ordered that the contract be "continued for a year contingent upon the straightening out of the matters referred to in the report of the committee." It was then ordered that the House of Delegates delegate its power to the Council to act in this matter.

1948 Convention City

The House of Delegates voted unanimously to hold the 1948 annual meeting at the Greenbrier, in White Sulphur Springs. Subsequently, the Council, at a special session, fixed July 12-13-14, 1948, as the dates for the 81st annual meeting.

Resolution of Thanks

Dr. Frank J. Holroyd proposed a resolution of thanks to the Kanawha Medical Society and Auxiliary for their hospitality during the meeting, and to the Associated Press, the United Press, the Charleston Gazette, and the Charleston Daily Mail, and all local broadcasting stations for their very excellent coverage of the convention. The resolution was adopted by a rising vote of the members of the House of Delegates.

PROPOSED AMENDMENT TO THE CONSTITUTION

The following amendment to the Constitution of the West Virginia State Medical Association, offered by Dr. V. L. Chambers of Huntington at the annual meeting of the House of Delegates at Charleston, May 12-14, 1947, will be submitted to the House of Delegates for final action at the 81st annual meeting at White Sulphur Springs, July 12-14, 1948:

Article IX.

Sec. 3. Amend the section to read as follows:

"Officers of this Association shall be elected at each annual meeting of the House of Delegates, except Councillors who shall be elected by the Delegates from their respective Councillor Districts at each such annual meeting."

(This section now reads as follows: "Officers of this Association shall be elected by the House of Delegates at each annual meeting.")

NEW ACADEMY APPROVED

At the second session of the House of Delegates of the West Virginia State Medical Association, held Tuesday, May 13, the organization of the new West Virginia Academy of Ophthalmology and Otolaryngology, to take the place of the present Section on Eye, Ear, Nose and Throat, was formally approved. The creation of the new academy had previously been approved by the Council.

Under the constitution adopted at the organization meeting on May 14, two meetings annually are provided. One is to be known as the "annual meeting", and the other the "regular meeting." Annual meetings are to be held during the annual meeting of the West Virginia State Medical Association, and regular meetings, to cover a period of two days, are to be held at one of the state's resorts.

The constitution presented by Dr. S. S. Hall, chairman, and Drs. F. C. Reel and J. Hallock Moore, was adopted unanimously, and the following officers were elected for the ensuing year: Dr. J. Hallock Moore, Huntington, president; Dr. E. C. Hartman, Parkersburg, vice president and president elect; Dr. K. E. Gerchow, Morgantown, second vice president; Dr. S. S. Hall, Clarksburg, secretary; and Dr. F. C. Reel, Charleston, treasurer.

COUNTY HEALTH WORK DIRECTOR NAMED

Dr. Alexander Witcow, city-county health commissioner, of Delaware, Ohio, has been appointed by Dr. N. H. Dyer, state health commissioner, as director of the bureau of county health work to succeed Dr. N. G. Angstadt, who resigned several months ago to accept appointment as director of the department of medical supervision of the school district of Reading, Pennsylvania.

Doctor Witcow is a graduate of the New York University College of Medicine, and received his master's degree in public health at Yale University. Prior to going to Delaware, Ohio, he served as director of the Dickinson County (Michigan) health department.

AMERICAN HEART ASSOCIATION MEETS

The annual meeting of the American Heart Association will be held at the Hotel President, in Atlantic City, June 6-7, prior to the 100th annual meeting of the American Medical Association. Doctors and other interested persons are invited to attend the sessions.

ALL-TIME ATTENDANCE RECORD SET AT ANNUAL MEETING IN CHARLESTON

An all-time attendance record was set at the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 12-14, 1947. The doctor registration totaled 551. This compares with 429 at Huntington in 1946. The previous record was set at Clarksburg in 1937, when 512 doctors were registered. The overall registration was 631, nearly 100 more than at Huntington last year. Several doctors were present from adjoining states.

The hotels were booked to capacity several weeks before the date of the opening of the convention, and it was necessary for several visiting doctors and their wives to accept accommodations at private homes in Charleston.

Scientific and Technical Exhibits

Probably never before has there been a better display of technical and scientific exhibits. While it was unfortunate that these exhibits had to be located in a hall separate from where scientific sessions were held, the doctor registration was for the most part satisfactory. There was adequate space for all exhibits, and wide aisles prevented the usual crowded conditions in the exhibit area. There were 36 technical and 14 scientific exhibits.

One of the most popular spots in the WCHS auditorium was the coffee bar operated by the Kanawha Auxiliary, where hot coffee and doughnuts were served morning and afternoon.

Night Sessions

At the two night sessions, capacity audiences greeted the speakers. Dr. Marjorie Shearon, of Washington, D. C., was on the same program with Dr. Wade H. St. Clair, the president, at the night meeting on May 12, and Dr. H. H. Shoulders, president of the American Medical Association, and Senator Chapman Revercomb, United States Senator from West Virginia, addressed a full house at the Daniel Boone at the session the following night.

All of the scientific sessions were well attended, and there was an overflow attendance at several of the section and society luncheons.

Annual Banquet

The annual banquet in the Daniel Boone Hotel was a complete sell-out, and several doctors and their wives had to be served in the main dining room at the hotel. Dr James S. Klumpp, of Huntington, was the toastmaster. There were no formal addresses, but Governor Clarence W. Meadows was introduced and spoke for just a few minutes. Doctor Klumpp kept the large crowd in good humor during the entire evening. Several specialties were presented by Kanawha Medical Society, and dinner music was furnished by a string ensemble. The entertainment ended with a dance at the Daniel Boone following the banquet.

NARCOTIC LICENSES MUST BE RENEWED

Applications for renewal of narcotic licenses for the year ending June 30, 1948, must be returned to the Collector of Internal Revenue, at Parkersburg, on or before July 1, 1947.

SECTIONS AND SOCIETIES ELECT OFFICERS AT ANNUAL MEETINGS

The section and society meetings held as part of the annual meeting of the West Virginia State Medical Association, at Charleston, May 12-14, 1947, were well attended. Besides hearing guest speakers, most of the organizations elected officers for the ensuing year.

The luncheon meeting of the West Virginia Chapter of the Medical College of Virginia Alumni, arranged by Miss Anne Skinner, assistant secretary, was attended by nearly 80 members, and a large crowd attended the dinner sponsored by the American Legion, at which Dr. Joseph E. Malconson, of Washington, D. C., was the guest speaker. Doctor Malconson is the Legion's consultant for its national rehabilitation program, in which a nationwide fight is to be waged against rheumatic heart disease.

New Officers

Section and society officers were elected as follows:

West Virginia Heart Association: Dr. Fred Whittlesey, Morgantown, president; A. Spates Brady, Charleston, vice president; and Ray H. Wharton, Parkersburg, secretary-treasurer.

West Virginia Obstetrical and Gynecological Society: Dr. E. J. Humphrey, Huntington, and Harry G. Steele, Bluefield, were reelected president and secretary-treasurer, respectively. Dr. Carl S. Bickel, Wheeling, was elected vice president.

West Virginia Association of Pathologists: Drs. C. C. Fenton, Morgantown; and W. T. McClure, Wheeling, were reelected president and secretary-treasurer, respectively.

Section on Internal Medicine: Dr. W. M. Sheppe, Wheeling, was reelected president, A. C. Woofter, Parkersburg, vice president, and R. M. Wylie, Huntinton, secretary.

Section on Pediatrics: Drs. Harry Baldock and Jack Basman, Charleston, were reelected chairman and secretary, respectively.

Section on Surgery: Dr. Hugh A. Bailey, Charleston, chairman; and Dr. Bert Bradford, Jr., Charleston, secretary.

Section on Industrial Health: Dr. J. L. Patterson, Logan, president; and Dr. V. L. Chambers, Huntington, secretary.

West Virginia Academy of Ophthalmology and Otolaryngology (formerly section on E. E. N. T.): Dr. J. Hallock Moore, Huntington, president; Dr. E. C. Hartman, Parkersburg, vice president and president elect; Dr. K. E. Gerchow, Morgantown, second vice president; Dr. S. S. Hall, Clarksburg, secretary; and Dr. F. C. Reel, Charleston, treasurer.

West Virginia Chapter of the Medical College of Virginia Alumni Association: Dr. Dana T. Moore, Parkersburg, was reelected president; and Dr. B. B. Richmond, Huntington, was named secretary-treasurer.

Governor, West Virginia Chapter of the American College of Physicians: Dr. D. A. MacGregor, Wheeling (reelected).

MRS. F. CARL CHANDLER ASSUMES PRESIDENCY OF WOMAN'S AUXILIARY

Mrs. F. Carl Chandler, of Bridgeport, assumed the presidency of the Woman's Auxiliary of the West Virginia State Medical Association at the 23rd annual meeting at Charleston, May 12-14, 1947. She had been elected at the meeting held at Huntington, in 1946, and will serve until the annual meeting at White Sulphur Springs, July 12-14, 1948.

Mrs. W. E. Hoffman, of Charleston, was installed by Mrs. John P. Helmick, as president elect. Other elective officers were installed as follows: First vice president, Mrs. John F. McCuskey, Clarksburg; second vice president, Mrs. L. D. Norris, Fairmont; third vice president, Mrs. T. U. Vermillion, Beckley; fourth vice president, Mrs. Dana T. Moore, Parkersburg; recording secretary, Mrs. C. J. Holley, Wheeling; and treasurer, Mrs. Ross P. Daniel, Beckley.

Committee Chairmen Appointed

Immediately after her induction as president, Mrs. Chandler announced the following appointments of standing committee chairmen: Corresponding secretary, Mrs. H. V. Thomas, Clarksburg; archives, Mrs. Herbert M. Beddow, Charleston; finance, Mrs. Frank J. Holroyd, Princeton; historian, Mrs. Edward W. Hickson, Fairmont; Hygeia, Mrs. Junior Myers, Philippi; legislation, Mrs. Ralph S. McLaughlin, Charleston; exhibits, Mrs. Andrew J. Weaver, Clarksburg; organization, Mrs. W. E. Hoffman, Charleston; parliamentarian, Mrs. U. G. McClure, Charleston; press and publicity, Mrs. J. Preston Lilly, Charleston; program, Mrs. S. S. Hall, Clarksburg; public relations, Mrs. W. A. Thornhill, Jr., Charleston; and revisions, Mrs. L. E. Shrewsbury, Beckley.

Mrs. F. Carl Chandler, Auxiliary President

Special Committee Chairmen

Chairmen of special committees were named as follows: Bulletin, Mrs. H. A. Shaffer, Beckley; essay contest, Mrs. D. E. Greeneltch, Wheeling; Southern Medical Association, Mrs. Ralph S. McLaughlin, Charleston; speaker's bureau, Mrs. George F. Evans, Clarksburg; credits and awards, Mrs. J. F. Lembright, Clarksburg; and, special projects, Mrs. Ralph Hogshead, Mammoth.

The following were named as delegates to the American Medical Association Auxiliary meeting in Atlantic City in June: Mesdames W. E. Hoffman, John F. McCuskey, U. G. McClure, and C. L. Goodhand. Mesdames C. N. Slater, Herbert M. Beddow, Philip Preiser, D. E. Greeneltch, and L. D. Norris, were named as alternates.

Social Affairs Arranged

Many social affairs were arranged for the 156 auxiliary members registered for the three-day meeting.

The past president's breakfast, at the Ruffner Hotel, on Monday morning, May 12, was attended by eighteen guests, with Mrs. U. G. McClure serving as hostess. The breakfast was followed by an executive board meeting at St. John's Parish House, and the convention was formally opened there Tuesday morning, May 13, with Mrs. D. E. Greeneltch, the president, presiding.

Mrs. A. C. Chandler, president elect of Kanawha Auxiliary, delivered the address of welcome, and response was made by Mrs. John F. McCuskey, of Clarksburg. There was a full attendance at the luncheon at the Edgewood Country Club Tuesday at noon, and the feature was a fashion show presented by the Diamond Department Store, Charleston. The following members of Kanawha Auxiliary served as models: Mesdames Ralph Jones, R. K. Buford, J. W. Hash, A. A. Seletz, Julius Boiarsky, John Condry, E. W. Squire, J. E. Grace, L. P. Stanley, R. C. Bock, Marion F. Jarrett, John T. Jarrett, Edwin M. Shepherd, T. P. Mantz, and George P. Heffner.

Capt. George M. Lyon (MC) USNR, of Huntington, was the guest speaker at the luncheon at the Ruffner Hotel on Wednesday, May 14. He discussed the types of application of atomic energy in medical research. "Never before", he said, "has there been a time when the future for medical research seems so bright."

More than 225 guests attended the tea at the executive mansion Wednesday afternoon. Receiving with Governor and Mrs. Clarence W. Meadows were Dr. and Mrs. Wade H. St. Clair, of Bluefield. Mrs. U. G. McClure introduced guests, and she was assisted by Mesdames Spencer L. Bivens, E. W. Squire, O. B. Bobbitt, R. O. Halloran, J. Preston Lilly, W. E. Hoffman, W. A. Thornhill, Jr., R. K. Buford, and R. S. McLaughlin.

Mrs. Greeneltch's Address

On Monday night, May 12, Mrs. D. E. Greeneltch, the president, spoke on the same program with Dr. Wade H. St. Clair, who delivered the annual address

of the president. In her address, Mrs. Greeneltch said that "the objects of our Auxiliary are to stimulate the spirit of cooperation and fellowship through a common bond of friendship." Continuing, the speaker said that "although the Auxiliary has been largely a social and cultural group, we have always been happy and anxious to carry out any requests that might be made in the furthering of the high aims of the medical profession."

"In this, our 24th year", she said, "we are desirous of organizing additional county units in the state. When an auxiliary is organized, the wives of doctors from all parts of the county meet, some for the first time. The spirit of fellowship is born with the first few projects undertaken. Women, as a rule, are not content to belong to an organization which does nothing, but, given the incentive to participate in a constructive endeavor, they become interested workers.

"An auxiliary without the support of its medical society can do little besides the yearly routine of placing Hygeia in schools and holding a bridge luncheon once a month. The women need creative and stimulating interest. If each county medical society would each year assign one or more special projects to its auxiliary, I am sure you could keep the women happy just because they feel the medical society wants them.

"If you but knew it, you could give the auxiliary many chores to do or to complete for you, thereby, saving your time and keeping them busy. A busy female seldom has time to become nervous or unhappy.

"You have heard, or will in the near future hear of an essay contest sponsored by the Auxiliary with the sanction of our advisors and the Council of the West Virginia State Medical Association. We would appreciate your support.

"It has been a pleasure to be here this evening, and all of us hope you have a successful and pleasant meeting."

FEES FIXED FOR MENTAL INSTITUTIONS

A maximum charge of one dollar per day has been fixed by the state board of control for patients in the mental institutions in West Virginia. Although under the new statute effective May 10 a charge may be made up to two dollars per day, the members of the board felt that the rate of one dollar per day should be maintained for the present time, especially as another statute provides for a maximum cost of one dollar per day for patients at tubercular institutions.

Under the law effective prior to May 10, counties have been required to pay $50.00 per annum for patients in a mental institution other than those considered incurably insane. Under the new law, the one dollar per day rate will apply to all patients in these institutions; however, counties will be required to make the payment only in the event the state is unable to collect fees from those responsible for the patients.

COUNCIL OPPOSES VA RULING AFFECTING OUT-PATIENT CARE

At the pre-convention meeting of the Council of the West Virginia State Medical Association, held at the Daniel Boone Hotel, in Charleston, May 11, 1947, Dr. J. S. Klumpp, of Huntington, brought to the attention of the members a recent ruling by the Veterans Administration to the effect that participating physicians enrolled under the veterans care program are denied the right to furnish out-patient care to veterans in Huntington and other cities of the state where there is a veterans hospital, clinic or branch office that is equipped to do the work.

It was ordered that General Omar Bradley and his chief medical officer be informed that the Council is opposed to this ruling, which in effect bars the doctors in Huntington and other West Virginia cities from participating in the veterans care program now in effect in this state.

VA Agreement Amended

The president was authorized by the Council to approve for the Association two amendments to the Veterans Care agreement, submitted by the Veterans Administration in Washington.

The first amendment provides that the agreement shall be effective from October 15, 1946, to June 30, 1947, and that it may be terminated by either party by giving thirty days written notice to that effect, and that the agreement may be renewed indefinitely from year to year if mutually satisfactory. The second amendment provides that the terms of the agreement authorzing a veteran to select a physician practicing in his home community shall not apply to examinations for pension rating purposes.

Proposed Group Insurance

A committee composed of Dr. J. L. Patterson, of Logan, chairman, and Drs. T. G. Reed, of Charleston, and W. C. Swann, of Huntington, was appointed to study and report back to the Council two plans submitted by insurance companies for group health and accident insurance for members of the State Medical Association.

Honorary Members Elected

The following doctors were elected to honorary lifetime membership in the State Medical Association:

Edward Davis, Salem
W. T. McClellan, Ethel
T. C. Smith, Slagle
G. R. Miller, Fairview
R. A. Ashworth, Moundsville
B. F. Bone, Moundsville
O. F. Covert, Moundsville
J. A. Striebich, Moundsville
R. V. Shanklin, Bluefield
D. M. Post, Lawrence, Ind.
Paul C. Spangler, Morganton, N. C.
C. D. Kraft, Parkersburg
F. D. Fortney, Beckley
E. E. Watson, Kingwood
F. E. Martin, New Martinsville

Several routine business matters were considered and acted upon at the three-hour session, which was attended by Dr. Andrew E. Amick, Chairman; and Drs. Wade H. St. Clair, James S. Klumpp, T. M. Barber, T. L. Harris, R. D. Gill, Carl E. Johnson, E. A. Trinkle, J. E. Wilson, W. C. Swann, A. R. Sidell, N. H. Dyer, J. L. Patterson, W. P. Bittinger, and Thomas G. Reed, and Mr. Charles Lively, secretary ex officio. The meeting was also attended by Dr. Frank V. Langfitt, of Clarksburg; Drs. Fred Richmond and E. L. King, of Beckley; and Drs. W. E. Vest, G. G. Irwin, E. J. Van Liere, and W. M. Sheppe, members of the Publications Committee.

DOCTORS LICENSED BY PHC

As the result of the examination held by the Public Health Council, at Charleston, March 31-April 1-2, 1947, twenty-three doctors were licensed to practice medicine in West Virginia, eleven by direct examination and twelve by reciprocity with other states.

The following doctors were licensed by direct examination: Ralph Ephriam Berman, Beckley; Robert Brady Cochran, Elkview; Joseph Theodore Gohmann, Rainelle; Charles Eric Johnston, Parsons; Moylan Bernard Kehoe, Logan; Harvey Stanley Klein, Jr., Huntington; Robert Vernon Larrick, Huntington; William Richard McCune, Detroit, Michigan; Homer Jack McDonald, Oak Hill; Albert Sheade, Huntington; and Henry Adolphus Wiseman, III, Glen Ferris.

The following is a list of doctors licensed by reciprocity: Robert Russell Dennison, Huntington; Charles Kermit Dilley, Marlington; Walter Sidney Feldman, Williamson; Robert Pershing Fosnaugh, Parkersburg; Harry Lee Greenberg, Holden; George Lester Grubb, Charleston; John Andrew Broaddus Holt, Charleston; Carlisle Bee Hughes, Jr., Montgomery; Simon Overton Johnson, Lakin; Kenneth Russell Ockerman, Kimball; Raney Archer Oven, Huntington; and Milford Forest Townsend, Dailey.

PUBLIC HEALTH ASSOCIATION ELECTS

At the annual meeting of the West Virginia Public Health Association, held at the Stonewall Jackson Hotel in Clarksburg, May 16-17, the following officers were elected:

President, Dr. L. A. Dickerson, Madison; first vice president, Mr. A. L. Lively, Bluefield; second vice president, Miss Charlotte McLaughlin, Charleston; and, secretary-treasurer, Miss Annette King, Charleston. Mr. C. E. Bright, of Romney, Dr. Thomas C. Sims, of Fayetteville, and Mrs. Mary Jane Stienspring, of West Union, were elected members of the executive board.

PHC TO MEET JUNE 30

The summer meeting of the Public Health Council will be held at the Daniel Boone Hotel, in Charleston, June 30—July 1-2, for the purpose of examining applicants for licensure in West Virginia.

RELOCATIONS

Dr. A. B. Collins, formerly of Blacksville, has relocated in Morgantown, where he has offices at 34 Dunkard Avenue.

* * * *

Dr. Sander Goodman, formerly of Huntington, has moved to Cincinnati, where he will continue the practice of his specialty of internal medicine and gastroenterology.

* * * *

Dr. Charles J. Sites of Parsons, has moved to Franklin, where he will continue in general practice. He has transferred his membership from the Barbour-Randolph-Tucker society to the Potomac Valley Society.

* * * *

Dr. Wendell E. James, of Elkins, has moved to Laconia, New Hampshire, where he will continue in general practice. He has offices at 22 Gale Avenue, that city.

* * * *

Dr. Chris A. Voelker, formerly of Morgantown, has recently moved to Dubuque, Iowa, where he is located at 509 Seminary Street. This is a permanent relocation and he will transfer membership to the Iowa State Medical Society.

* * * *

Dr. David W. Palmer, of Wheeling, who served in the medical corps of the Navy from June, 1942, until February, 1946, has completed postgraduate work in urology at the University of Pennsylvania and is now serving on the staff at St. Vincent's Hospital, in Erie, Pennsylvania.

* * * *

Dr. Adolph G. Kammer, of New York City, has been appointed medical director of Carbide and Carbon Chemicals Corporation, in South Charleston, and has assumed his new duties there. Doctor Kammer has been serving as general medical director for Schenley Distillery Corporation, in New York.

PROPOSED AMENDMENTS DEFEATED

All of the amendments to the constitution of the West Virginia State Medical Association, proposed at the annual meeting at Huntington in May, 1946, were defeated by the House of Delegates at the annual meeting in Charleston, May 12-14, 1947.

One amendment would have barred all past presidents from membership in the House of Delegates except by direct election as a delegate from their respective component societies.

Another proposed amendment would have limited councillors to a two-year term, instead of permitting reelection for an additional term, as now provided by the constitution.

Under a third proposed amendment, no member would have been permitted to hold more than one office at the same time in the State Medical Association, whether elective or appointive.

Resolutions Adopted

The following resolutions were unanimously adopted at the Second Session of the House of Delegates at the 80th annual meeting in Charleston, May 13, 1947:

SECTION ON DISEASES OF THE CHEST

WHEREAS, there are approximately 2500 physicians and surgeons in the United States engaged in the practice of diseases of the chest; and,

WHEREAS, this specialty has made notable progress in advancing the knowledge of diseases of the chest during the past ten years; and,

WHEREAS, the specialty is well established and recognized among the members of the medical profession and the public; and,

WHEREAS, a total of three hundred eighty-eight chest specialists registered at the annual meeting of the American Medical Association held at San Francisco, July 1-15, 1946; and,

WHEREAS, the registration exceeded this total in but four of the seventeen sections of the American Medical Association, i.e., internal medicine, general and abdominal surgery, obstetrics and gynecology, and the general practice of medicine; and,

WHEREAS, diseases of the chest constitute a very large and important segment of the entire volume of medical practice:

THEREFORE, BE IT RESOLVED by the House of Delegates of the West Virginia State Medical Association, that our delegates to the American Medical Association be instructed to present this resolution in the House of Delegates at the coming session in Atlantic City, with the request that a Section on Diseases of the Chest be established in the Scientific Assembly of the American Medical Association.

RHEUMATIC HEART DISEASE

WHEREAS, the American Legion is sponsoring on a national scale a program to combat, control, and rehabilitate those unfortunately afflicted with rheumatic fever and its complications; and,

WHEREAS, much attention has been paid in the past to other diseases with a much lower rate of morbidity and mortality; and,

WHEREAS, such a proposed program is sorely needed both to educate the public and the profession and to keep pace with advanced medical thought in re rheumatic fever and its complications:

BE IT RESOLVED, that the West Virginia State Medical Association, through its House of Delegates, wholeheartedly endorse the proposed American Legion program; and,

BE IT FURTHER RESOLVED, that the West Virginia State Medical Association, through its members, through the West Virginia Heart Association, and through the Section on Pediatrics, cooperate to the fullest extent in promoting adequate publicity and other features to cooperate with the Legion in its program; and,

BE IT FURTHER RESOLVED, that the West Virginia State Medical Association recommends that this program for rehabilitation be incorporated into the crippled children's program in this state.

A. A. P. S.

WHEREAS, the Association of American Physicians and Surgeons has as one of its principal objects the maintenance of medicine as a free enterprise in the United States; and,

WHEREAS, the Association maintains a Washington bureau, the members of which are in almost hourly touch with the situation in Congress, are cognizant of the work of the committee, and follow closely the progress of hearings; and,

WHEREAS, the Association makes every effort to ascertain in advance any contemplated move in Congress that might in the least affect the practice of medicine in this country; and,

WHEREAS, the Washington bureau reports promptly to the members of the Association and the officers of all state societies and associations any developments in which action is necessary by the various medical organizations; and,

WHEREAS, while the Association bitterly opposes the enactment of any type of legislation that would take from the hands of the medical profession the conduct of medicine in this country, it is, nevertheless, interested in the extension of medical service under the supervision of doctors so that good medical care may be provided for all of the people of the country:

NOW, THEREFORE, BE IT RESOLVED: That the West Virginia State Medical Association does hereby approve the objectives of the Association of American Physicians and all other organizations assisting in the accomplishment of these objectives.

AMERICAN SPECIALTY BOARDS

WHEREAS, certain of the American specialty boards not only refuse to grant credit for experience and training acquired in the field of general practice, but have also recently announced discontinuance of their former practice of according credit for preceptorships with a certified diplomate and have ruled instead that every applicant for certification must serve a lengthy residency following his internship; and,

WHEREAS, this recent change in policy constitutes an unfair imposition on many returned medical veterans and other young physicians who find it impossible to obtain such residencies; and,

WHEREAS, doctors entering the various specialties without any experience or training in the field of general practice find it difficult, if not impossible, to develop a broad overall understanding of the field of medicine as a whole; and,

WHEREAS, general practice offers unique opportunities for the development of individual initiative, self-reliance, personality development and professional growth; and,

WHEREAS, it is the opinion of the West Virginia State Medical Association that general practice and preceptorships are two of the best methods of teaching the art of medicine; and,

WHEREAS, qualified and experienced preceptors already certified by these boards are available in all parts of the United States; and,

WHEREAS, the art of medicine is frequently neglected in hospital residencies owing to overemphasis on the science of medicine:

THEREFORE, BE IT RESOLVED, that the House of Delegates of the West Virginia State Medical Association requests the Advisory Board for Medical Specialties and the several American specialty boards to review and reconsider their policies in relation to general practice, residencies, and preceptorships in accordance with the foregoing statements.

SPECIALTY RESIDENCIES

WHEREAS, there is great need for more general practitioners of medicine, especially in the smaller communities of this country; and,

WHEREAS, general practice in such areas tends to develop self-reliance and a well rounded knowledge of the entire field of medicine, thereby giving candidates for specialization a broad professional educational basis:

THEREFORE, BE IT RESOLVED by the House of Delegates of the West Virginia State Medical Association, that we approve the principle of alloting one-half the specialty residencies to applicants who have had five years' experience in general practice in smaller communities, say under 10,000 population, and allowing due time credit, say two years, for such general practice; and,

BE IT FURTHER RESOLVED, that our delegates to the American Medical Association be instructed to present this resolution to the House of Delegates of the American Medical Association at the Atlantic City session with the request that it be approved and forwarded to the various specialty boards for their consideration.

PRACTICE OF MEDICINE AND SURGERY

WHEREAS, all recent surveys would seem to castigate the practice of medicine in the coal fields of West Virginia; and,

WHEREAS, the laws covering the practice of medicine and surgery in West Virginia are designed to raise the level of medical practice; and,

WHEREAS, at this time the osteopathic physician is allowed under our present laws to practice medicine and surgery in West Virginia:

THEREFORE, BE IT RESOLVED, that the legislative committee of the West Virginia State Medical Association cause to be introduced at the next session of the West Virginia Legislature a bill requiring that the same standards of education and training be met by all who are to practice medicine and surgery in West Virginia, and that all be required to take the same medical board.

HOSPITALS AND PRACTICE OF MEDICINE

WHEREAS, there is a growing tendency among hospitals to enter into and encroach upon the practice of medicine, especially in the fields of pathology, clinical laboratory work, anesthesia and diagnostic roentgenology; and,

WHEREAS, in all the states the practice of medicine is legally a franchise granted by the state to an individual after rigid technical training and due examination; and,

WHEREAS, the practice of medicine involves an individual personal service which in the nature of things cannot be performed by an organization or corporation; and,

WHEREAS, in an increasing number of hospitals, lay boards have gradually taken over the policies of the hospitals and have dictated to the medical staff not only problems of management but those of nursing and medical care as well:

THEREFORE, BE IT RESOLVED, by the House of Delegates of the West Virginia State Medical Association, that we go on record as condemning this tendency, especially as to setting and collection of fees by hospitals; and,

BE IT FURTHER RESOLVED, that our delegates to the American Medical Association be instructed to present this resolution to the House of Delegates of the American Medical Association at the coming meeting in Atlantic City with the request that the Council on Medical Education and Hospitals be instructed to include in the standards for hospital recognition these basic principles:

1. That all fees for medical service be set by and collected for by duly licensed doctors of medicine; and,
2. That all policies and practices involving treatment, nursing, and medical service be approved by the medical staff before being put into effect.

TRY PABLUM ON YOUR VACATION

Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron, and vitamins B and G. It can be prepared in a minute, without cooking, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration. Easy-to-fix Pablum recipes and samples are available to physicians who request them from Mead Johnson & Company, Evansville, Indiana.

BORDEN'S 90th ANNIVERSARY

The Borden Company is celebrating its 90th anniversary during the month of May company officials have announced.

In connection with the anniversary the company is distributing "The Story of Gail Borden."

Annual Reports*

REPORT OF EXECUTIVE SECRETARY

The slow but steady decrease in membership which began in 1942 came to a halt in the fall of 1946 and the total number of members is now increasing month by month. During the war years, death took a heavy toll of members, and relocations of doctors in the state far from compensated for the loss through removals of our members to other states. Another factor militated against a normal increase of members during this period of time. Graduates of medical schools were commissioned in the armed forces at the end of their internship and before they had an opportunity to affiliate themselves with a medical society. The release of doctors from military service has resulted in the relocation of many of them for practice in this state, and their subsequent election to membership in the State Medical Association.

Membership Statistics

There has been a loss of 17 members by death and 70 by relocation in other states during the year, while 134 doctors have been elected to membership. As of this date (May 10), the membership totals 1349, an all-time high. This compares with 1,302 in 1946. Of the total number, 99 are honorary members. All but 11 of the 425 members who served in the armed forces during World War II have returned to civilian practice.

The membership by counties as of May 10, is as follows:

Barbour-Randolph-Tucker	47
Boone	15
Brooke	8
Cabell	151
Central West Virginia	55
Doddridge	2
Eastern Panhandle	29
Fayette	49
Greenbrier Valley	24
Hancock	20
Harrison	86
Kanawha	235
Logan	37
Marion	59
Marshall	20
Mason	5
Mercer	57
Mingo	24
Monongalia	52
McDowell	62
Ohio	98
Parkersburg Academy	78
Potomac Valley	30
Preston	19
Raleigh	62
Summers	9
Taylor	8
Wetzel	10
Wyoming	13

*Other reports were published in the May, 1947, issue of the West Virginia Medical Journal.

1947 Honor Roll

The following component societies are on the 1947 honor roll, having reported a one hundred per cent payment of dues:

Barbour-Randolph-Tucker, Boone, Brooke, Central West Virginia, Doddridge, Eastern Panhandle, Fayette, Greenbrier Valley, Hancock, Harrison, Kanawha, Logan, Marion, Marshall, Mercer, Ohio, Preston, Raleigh, Summers, Taylor, Wetzel.

All but 16 members have paid their dues for 1947.

Association Committees

Many of the Association committees have been very active during the year. The good attendance of members at these meetings indicates the interest that is being taken in the work. The chairmen have prepared agendas that have included matters properly referable to their committees, and much constructive good has come out of these meetings.

New special committees appointed during the year have been hard at work, and detailed reports have been filed or will be filed during this session of the House of Delegates.

Component Societies

With the relaxation of gasoline and tire restrictions, it has been possible for the executive secretary to visit many of the component societies during the past year. These meetings have brought the headquarters office into closer touch with officers and members of local societies over the state. It is hoped that it may be possible for visits to be arranged with all of the component societies during the coming year.

No state medical association is stronger than its component societies, and it is encouraging to note increased interest in local society work. The attendance at these meetings indicates renewed interest in the scientific programs. Some of the larger societies have used the facilities of local broadcasting systems to good effect, and some have frequently made medical motion pictures part of their programs during the year.

Woman's Auxiliary

Invitations have been received from many of the county and area auxiliaries to participate in regularly scheduled meetings, many of which have been attended by groups of women who are members of some of the other local organizations. All of these invitations have been accepted. The Woman's Auxiliary is doing a fine piece of work in the state, and I desire to acknowledge with thanks the prompt response that has always been made by the members to requests for cooperation in matters affecting the conduct of the affairs of the State Medical Association.

While the consideration by Congress of proposed social legislation has slowed considerably, there has been sufficient agitation in Washington not only to justify but require continued active opposition to bills of the Wagner-Murray-Dingell type. Accordingly, the executive secretary has appeared before several service clubs and other lay groups of men and women in various parts of the state in opposition to this legislation.

The Journal

It has probably been noticed that the Journal has continued its growth during the past year. The sale of additional advertising has made it possible to devote more space to the publication of scientific papers and to enlarge the news and organization sections. There has been an extension of the use of color in the advertising section, which adds to the attractiveness of the Journal. The members of the Publication Committee are still striving to provide for the readers the very best scientific material available.

The interest in the 1947 convention was probably more widespread than ever before. The very fact that the exhibits outnumber those shown at any previous convention, coupled with the fact that several requests for space had to be declined on account of lack of room, demonstrates clearly the interest of the medical exhibitors in the annual meeting of this State Medical Association.

On behalf of the headquarters staff I desire to extend to the officers, the council, committee members, officers of component societies, all convention committees, and the membership generally sincere thanks for helping make 1947 one of the best years in the whole eighty years' existence of the West Virginia State Medical Association.

Respectfully submitted:

CHARLES LIVELY,
Executive Secretary.

COMMITTEE ON PRESIDENT'S ADDRESS

We, the members of the Committee on the President's Address, have carefully studied that address and wish to submit the following comments:

1. Doctor St. Clair's presidential address is one of the most forceful, concise, thought-provoking papers we have ever had the privilege of reading.

2. The address deals exclusively with one major subject—the proper method of providing adequate medical care for the indigent and the medically indigent patient.

3. We have been particularly impressed with the President's interpretation of the broader concept of the medically indigent. We agree with the statement that there is a large percentage of the population which is able to pay the cost of food, clothing and shelter, but at the same time they are unable to pay the cost of hospitalization and medical care, even on an insurance basis.

4. It is pointed out that at the present time the Department of Public Assistance is not taking care of the situation satisfactorily. Because of lack of funds, and for other reasons, the Department is not able to provide for clients above the destitute level.

5. In order to make adequate provision for doing this work, it will be necessary for the state to appropriate five or six times the amount of tax money which is being spent by the state for indigent medical care at the present time.

6. We approved President St. Clair's recommendation with respect to the Taft-Smith-Ball-Donnell Bill (S. 545), which is as follows:

> "I would be in full accord with the idea that each community should be responsible for its own medical problems if the idea would work. But the idea does not work. Even for the care of the destitute, it has not worked at the county level and has not been adequate at the state level. We may as well face the facts then and accept the federal government's entrance into medicine to the extent of paying or helping to pay the cost of medical care for those people who are not able to pay the cost.
>
> "The solution of the problem would appear to be the passage by the Congress of the Taft-Smith-Ball-Donnell Bill. This bill (S. 545) was introduced February 10, 1947, and referred to the Senate Committee on Labor and Public Welfare. Besides creating a National Health Agency which would coordinate all federal health activities in one agency, the bill provides for general medical care for families and individuals with low incomes by federal grants to states having approved plans. The grants would be administered at state levels. The bill is designed to reduce federal control to a minimum and specifically prohibits federal interference with administration of state programs which have been approved."

Respectfully submitted:

D. A. MacGREGOR, M. D., Chairman
THOMAS L. HARRIS, M. D.
RAY M. BOBBITT, M. D.

COMMITTEE ON SYPHILIS

Your Committee on Syphilis approved the recommendation made at the annual meeting in 1946, that the name of the Syphilis Committee be changed to that of "Venereal Disease Advisory Committee."

At the 1946 meeting of the committee, a resolution was adopted to the effect that the economic status of venereal disease patients treated at public facilities should be investigated. Further study in this matter has revealed that such an investigation would require the services of some credit agency to obtain an impartial and accurate conclusion as to the economic status of these patients; and, it is the opinion of the committee that patients now being treated at public facilities are, in fact, in the marginal or submarginal group economically, and since they are unable to pay for adequate treatment from private sources, it is fitting and proper that public facilities should be made available for their treatment in the interest of the public health.

Your committee has reviewed a booklet on current diagnostic and treatment methods for syphilis, entitled "Syphilis Today", compiled by the West Virginia State Department of Health for distribution to licensed practitioners in West Virginia. The committee heartily endorses the distribution of the brochure and recommends its use as an aid in the management of syphilis patients. The committee further recommends the use of self-interview forms, to be given to the patient by the physician for reporting venereal disease contacts. Such forms are to be made available through the state department of health.

Your committee recommends that the bureau of venereal disease control in the state health department should make every effort to promote better reporting of venereal diseases by private physicians. It is felt that reporting would be improved if the bureau were to make available to physicians a form on which they could keep a record of treatment given to their patients, the form to be sent to the physician when the morbidity report is received by the bureau. Enclosed with it should be a new morbidity report form, in order that the physician would always have a supply of these forms available.

Your committee further recommends that on the venereal disease morbidity report form now in use the question as to whether or not the patient was referred to the Kanawha Valley Medical Center be omitted as being irrelevant. Information in connection with that data is already available to the bureau through the records kept at the Center. In its place a question should be asked as to whether or not the physician desires that the case be investigated and interviewed by a case worker from the state health department to hold the patient to treatment, and to obtain information regarding contacts.

Your committee feels that whenever a patient is referred to the Center by a private physician an abstract on treatment giving laboratory findings and recommendations regarding further management should be sent to the referring physician routinely, and that a copy of the report should be sent to the state health department.

It is the recommendation of the committee that the performance of premarital tests by the state hygienic laboratory should be discontinued. Such tests are required by law and the persons on whom they are done are seldom in the indigent group, and it is the feeling of the committee that this work should be done by approved private laboratories.

Your committee feels that physicians are frequently sending specimens on non-indigent patients to the state hygienic laboratory. There is no way by which the laboratory can distinguish between specimens sent on indigent patients and those who are non-indigent. The committee feels that physicians should restrict the sending of blood specimens to the state hygienic laboratory on the indigent group.

Your committee feels that the value of the Quantitative Kahn Test as a serologic procedure should be more generally recognized, and that it should be more generally used in the management of syphilis patients, particularly with respect to diagnosing congenital syphilis in infants and with respect to post-treatment observation. It is felt the state hygienic laboratory should make this service available, and that adequate funds should be made available to the laboratory in order that this procedure might be carried out routinely on all blood specimens submitted for serologic examinations.

Your committee commends the state hygienic laboratory for the services it is performing in connection with the evaluation and approval of private laboratories.

Your committee, recognizing the fact that penicillin is widely used for a variety of conditions, and feeling that inherent in its use in the treatment of venereal diseases there are certain dangers, submits the following recommendations:

(a) As penicillin in the dosage used in the treat- of gonorrhea often masks the early findings of syphilis, all patients treated for gonorrhea with penicillin should be followed clinically and serologically for a period of at least four months to rule out a concurrent syphilis infection.

(b) The diagnosis of early syphilis should always be based on laboratory data. The patient should never be treated for primary or secondary syphilis on the basis of clinical findings alone.

(c) Syphilis should be suspected in all genital lesions and darkfield examination and serologic tests should be performed.

It is the conclusion of the committee that all positive blood test reports on specimens examined by approved laboratories should be made available routinely to the bureau of venereal disease control for epidemiologic use.

Respectfully submitted,

H. M. ESCUE, M. D.,
Chairman,
C. A. HOFFMAN, M. D.,
C. G. POWER, M. D.,
J. E. OFFNER, M. D.,
R. C. NEALE, M. D.,
W. CARROLL BOGGS, M. D.

COMMITTEE ON MENTAL HYGIENE

The Committee on Mental Hygiene, appointed by the president of your State Medical Association pursuant to the action of the Council, has met, and various sub-committees have been appointed for the purpose of assisting the State Health Commissioner, Dr. N. H. Dyer, to get the newly-created division of mental hygiene on a working basis.

The committee has shown a rare interest in this very important subject and has offered many valuable and pertinent suggestions, greatly aided by the advice and counsel of Doctor Dyer, as well as by the earnest efforts of our executive secretary, Mr. Charles Lively.

Doctor Dyer reported that it is probable that of the various funds a total of approximately $66,000.00 would be available for the use of the new division of mental hygiene for the fiscal year beginning July 1, 1947. This figure arrived at would be available on a matched basis with one dollar being advanced by the state for every two dollars supplied by the federal government.

The committee, as well as Doctor Dyer, felt that the greatest need at the present time is to find a suitable person to head this division. Committees have been appointed to work with Doctor Dyer and the state health department in an effort to secure the best man possible to head this division. The many problems that confront such a program as is planned will necessarily take a great deal of time and effort, but I

feel that with the committee we now have and with their continued work and the interest of an aroused medical profession we will be able to see our program in action before many weeks have passed.

The committee will welcome any advice or suggestions from any member of our State Medical Association, and it is on such advice that we will base future programs for the state. I want to thank personally each and every member of the committee, not only for their attendance at our initial meeting, but for the extremely thoughtful manner in which the many problems confronting us have been handled.

Respectfully submitted,

OSCAR B. BIERN, M. D.,
Chairman.

NECROLOGY COMMITTEE

The following is a list of West Virginia doctors whose deaths during the past year have been reported to the West Virginia State Medical Association:

Archibald Don Kessler, Huntington—June 26, 1946
Maury Anderson, Dunbar—July 5, 1946
Thomas Herbert Elliott, Oak Hill—July 29, 1946
Nathan Poliakoff, Williamson—August 31, 1946
Benjamin Harrison Swint, Charleston—September 7, 1946
Ray Charles Otte, Wellsburg—October 4, 1946
Jack R. Tayman Rafter, Keyser—October 21, 1946
Jesse Oscar Bailiff, Mullens—November 3, 1946
Oliver Dustin Barker, Parkersburg—November 4, 1946
John H. Luikhart, Moundsville—November 9, 1946
James Riley McCollum, St. Marys—November 15, 1946
Charles Tiffany St. Clair, Bluefield—November 17, 1946
Perthas C. Chenoweth, Grafton—November 25, 1946
Alonzo Hoffman, Russell, Ky. (Formerly Milton)—December 24, 1946
Kyle McCue Jarrell, Beckley—January 24, 1947
Lucian N. Yost, Fairmont—February 4, 1947
Edward F. Wehner, Clarksburg—March 3, 1947
J. Edward Richmond, Weirton—March 11, 1947
Henry Lovejoy Kirkpatrick, White Sulphur Springs—March 15, 1947
Thomas Everette Romine, Charleston—March 28, 1947
Harold Charles Harpfer, Wheeling—April 1, 1947
H. N. Azar, Wheeling—April 20, 1947
I. R. LeSage, Huntington—April 30, 1947

Requiescant in pace.

Respectfully submitted

HARRY G. STEELE, M. D.,
Chairman,
ROY BEN MILLER, M. D.,
R. J. REED, M. D.,
JAMES McCLUNG, M. D.,
JAMES R. BLOSS, M. D.,
T. JUD McBEE, M. D.

Obituaries

HARRY N. AZAR, M. D.

Dr. Harry N. Azar, 47, of Wheeling, was killed in an airplane accident near Moundsville, April 20, 1947. Death was instantaneous.

Doctor Azar was born at Prairie Depot, Ohio, August 19, 1899; A. B. Marietta College, 1923, and M. D. Georgetown University, 1928. He interned at St. Elizabeth's Hospital, Dayton, Ohio, and served a residency at the Wheeling Hospital. He was licensed to practice in West Virginia in 1928, locating at Wheeling, where he remained in practice until his death.

Doctor Azar was a member of the Ohio County Medical Society, the West Virginia State Medical Association, and the American Medical Association.

Referring to Doctor Azar as "one of those rare individuals who made many friends in all walks of life", the Ohio County Medical Society, adopted a resolution of respect following his death. In the resolution, it was stated that "those who knew him best will mourn the passing of a sincere and true man. The hospital where he worked, and the physicians with whom he associated, will always remember the kindly help which he offered and performed whenever an occasion demanded."

* * * *

ISAAC RICHARD LeSAGE, M. D.

Dr. Isaac Richard LeSage, 81, of Huntington, died April 30, 1947, in that city. Doctor LeSage was born in Cabell County and received his academic training at Marshall College; M. D. Medical College of Ohio, 1888; postgraduate work at Chicago Postgraduate Hospital. He was licensed to practice in West Virginia in 1889, locating at Huntington, where he remained in practice until his death.

LONGER LIFE ASSURED

There has probably been no period in the world's history when the accumulation of scientific knowledge was as great as it is today. It seems equally safe to assert that, so far as concerns ability to apply this knowledge for the benefit of the public health, no nation is or has been in as favorable position as the United States.

Newer knowledge for the prevention of diseases and improvement of health, as well as knowledge long held, is almost staggering in its implications. As each year passes, it becomes possible to see more clearly how, as a practical matter, illness or death from this disease or that may be made an unusual event in the community. New vaccines, and the broadening field of immunochemistry, chemotherapy, antibiotics, specifics in the prevention and control of nutritional diseases, the possibilities of chemical synthesis, clarifications as to etiology and pathology of many of the chronic diseases, productive fundamental research—all these advances present new pages and fresh promises of a healthier and longer life for man as an individual and in the mass.—Harry S. Mustard, M. D., in Illinois Medical Journal.

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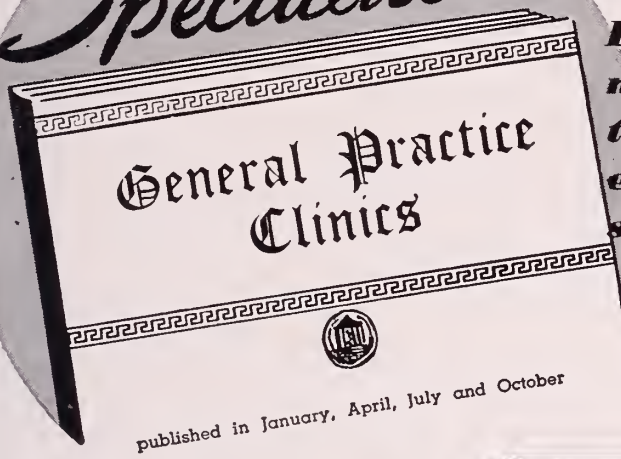

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NAME.....
STREET.....
CITY.....ZONE.....STATE.....

County Society News

B-R-T

Dr. John McCuskey, of Clarksburg, was the guest speaker at the regular monthly meeting of the Barbour-Randolph-Tucker Medical Society, held at Iquinta's, in Galloway, April 10. His subject was, "Treatment of Urinary Tract Infections." The speaker stressed the importance of the use of specific chemotherapeutic and biological agents against specific organism responsible for these injections.

Dr. John Lenox, of Philippi, discussed medicine in China. He very interestingly compared practice in the East with that in the West. The speaker stated that modern medicine is gaining ground rapidly in the Far East.

The following doctors were elected members of the society: J. L. Berkley, Elkins; Samuel Bucher, Harman; I. J. Hansman, Philippi; and L. O. Gregg, Davis.

Dr. R. J. Condry presided at the meeting, which was attended by twenty-four members and guests.

DONALD R. ROBERTS, M. D.,
Secretary.

* * * *

BOONE

Dr. George Miyakawa, of Charleston, was the guest speaker at the regular monthly meeting of the Boone County Medical Society, held at Madison, April 16. His subject was, "Common Traumatic Surgical Problems." The speaker presented several case histories in connection with his paper, which was discussed by Drs. David H. Hill, R. I. Frame, H. H. Howell, and W. V. Wilkerson.

Dr. F. J. Stashak, of Sharples, was elected a member of the society.

L. A. DICKERSON, M. D.,
Secretary.

* * * *

CABELL

The regular monthly meeting of the Cabell County Medical Society was held May 8, at the Prichard Hotel, in Huntington.

The speaker was Dr. Frank D. Costenbader, assistant clinical professor of the George Washington School of Medicine, in Washington, and associate consultant in ophthalmology at Columbia Hospital, limiting his practice to pediatric ophthalmology. Doctor Costenbader presenting an interesting paper on, "Ocular Infections of the Newborn."

THOMAS L. GROVE, M. D.,
Secretary.

* * * *

CENTRAL WEST VIRGINIA

Dr. Andrew E. Amick, of Lewisburg, was the guest speaker at the regular quarterly meeting of the Central West Virginia Medical Society, held in the Southern Methodist Church at Richwood, April 18, 1947. Doctor Amick presented an interesting paper on the immunization of infants for various communicable diseases, with particular emphasis on whooping cough.

Following Doctor Amick's presentation, a series of slides was shown on surgery of the hand.

At the business meeting following the scientific program, the following delegates and alternates were elected to the House of Delegates: M. T. Morrison, R. M. Fisher and J. M. Cofer, delegates; and W. W. Huffman, J. E. Echols and I. F. Hartman, alternates.

Preceding the meeting, the members of the society their wives, and guests were entertained at dinner by Dr. James McClung, of Richwood. The affair was one of the most enjoyable ever given for the members of the Central West Virginia Medical Society.

J. M. COFER, M. D.,
Secretary.

* * * *

FAYETTE

Dr. James M. Whitfield, Associate in Obstetrics at the Medical College of Vigrinia, Richmond, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held at the Tech Cafe in Montgomery, Tuesday, May 6. His subject was "Management of Breech Delivery."

JOE N. JARRETT, M. D.,
Secretary.

* * * *

LOGAN

Dr. Thomas G. Reed and Dr. George P. Heffner, of Charleston, were the guest speakers at the regular monthly meeting of the Logan County Medical Society, held at the Aracoma Hotel, in Logan, April 9. Doctor Reed discussed "Treatment of Urinary Tract Infections", and Doctor Heffner's subject was "Recent Advances in the Treatment of Nephritis."

Dr. W. T. McClellan, of Ethel, was elected a lifetime honorary member of the society.

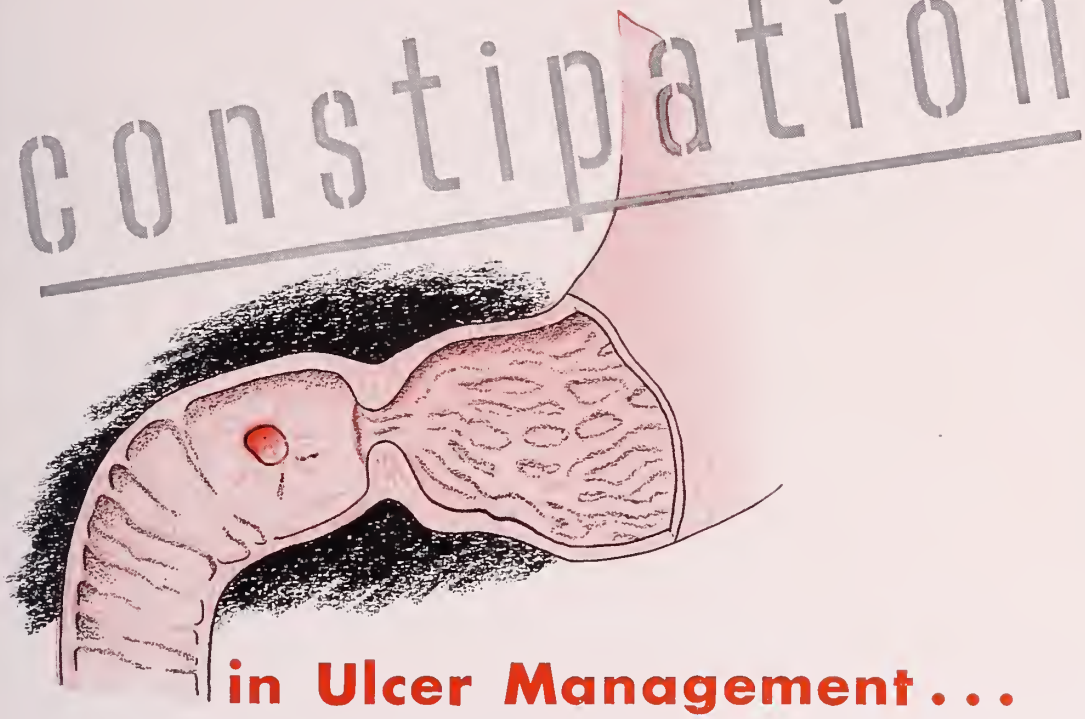
I. M. KRUGER, M. D., Secretary.

EMOTIONAL STABILITY TESTS

During the war it was thought that a safe employment for conscientious objectors, where they could exert no harmful contagion of ideas among the general population, was as orderlies in hospitals for the insane. They proved unexpectedly helpful there to the country's progress, because their observations and reports upon the often cruel and harmful methods of handling the insane aroused general sympathy for this grossly neglected class. Passage of the National Mental Health Act, now beginning its activity for prophylaxis and therapy of mental disease, was stimulated by recent lay expositions of conditions in institutions for the insane.

This increased governmental interest, together with the statistics upon the steady increase of mental instability in the population, and with the steadily rising caliber of psychiatric research, will make mental health one of the most rapidly advancing medical specialties of the years to come. Although the original intelligence tests had little or nothing to do with actual insanity, the emotional stability tests which now occupy a central part of the psychiatric field are apparently intimately concerned with it. — Southern Medical Journal.

constipation



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—Portis, S. A.: Diseases of the Digestive System, ed. 2, Philadelphia, Lea & Febiger, 1944, p. 199.

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Woman's Auxiliary

HARRISON

At the regular monthly meeting of the Woman's Auxiliary to the Harrison County Medical Society, held at the Waldo Hotel in Clarksburg, May 1, new officers were installed as follows: President, Mrs. J. C. Repass; president elect, Mrs. L. D. Zinn; vice president, Mrs. D. P. Cruikshank; secretary, Mrs. Jack Gocke; and treasurer, Mrs. J. E. Stephenson.

It was announced by Mrs. S. S. Hall that the auxiliary would comply with the request of the Harrison County Medical Society and compile for them a history of the society's members. Mrs. H. V. Thomas, the chairman, requested aid from all of the members and announced that work on the history would begin late in the summer.

MRS. JOSEPH GILMAN,
Secretary.

* * * *

KANAWHA

One of the year's outstanding events of the Woman's Auxiliary to the Kanawha Medical Society was the production of a play, "The Doctor Takes a Wife", written by Mrs. John W. Hash and Mrs. A. A. Shawkey. The cast was chosen from the Kanawha Auxiliary and produced in professional style.

Doctor's Day was observed at an open house at the home of Dr. and Mrs. A. A. Wilson, with over 150 persons in attendance.

Huntington

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W. BECKETT MARTIN, M. D.

The membership now totals 128, and Mrs. Harry E. Baldock, Hygeia chairman, reports 84 subscriptions, and Mrs. Bert Bradford, Jr., the Bulletin chairman, 43 subscriptions.

The new officers for the year were installed by Mrs. D. E. Greeneltch, president of the Woman's Auxiliary to the West Virginia State Medical Association, at a luncheon held at Edgewood Country Club during the convention. The officers are as follows:

President, Mrs. Arthur C. Chandler; president elect, Mrs. John W. Hash; first vice president, Mrs. Bert Bradford, Jr.; second vice president, Mrs. Charles Staats; third vice president, Mrs. H. N. Hills, Jr.; corresponding secretary, Mrs. Jack Basman; recording secretary, Mrs. A. B. Bowyer; and treasurer, Mrs. John T. Jarrett.

Standing committee chairmen were appointed by Mrs. Chandler as follows: Legislative, Mrs. George P. Heffner; Hygeia, Mrs. John Condry; public relations, Mrs. R. R. Louft; exhibits, Mrs. R. S. McLaughlin; parliamentarian, Mrs. W. E. Hoffman; visiting, Mrs. J. Preston Lilly; auditing, Mrs. Paul Elkin; speaker's bureau, Mrs. W. A. Thornhill, Jr.; historian, Mrs. R. L. Anderson; and Bulletin, Mrs. F. C. Reel.

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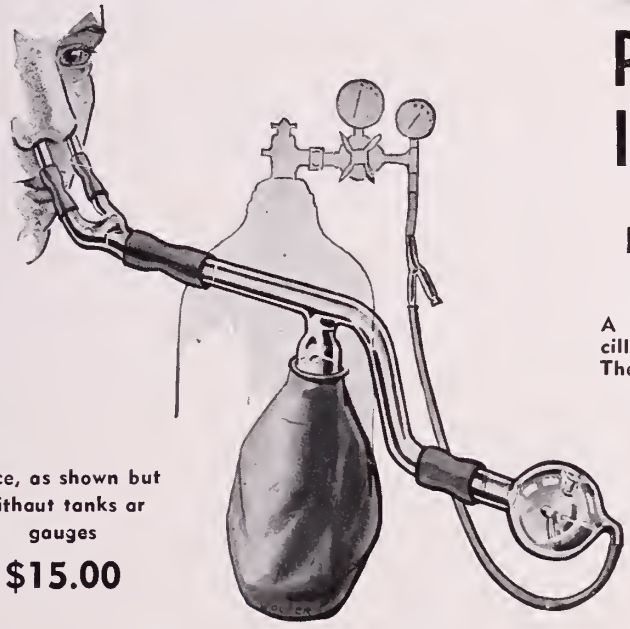

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THE PRESENT STATUS OF LIVER DISEASE*

By RICHARD J. STEVENS, M. D.
Huntington, W. Va.

The liver probably is second only to the heart in importance to survival of an individual; therefore, any damage to this organ must be considered as serious. It has been known for some time that the liver is composed chiefly of relatively uniform simple cells which perform a great variety of quite intricate bodily activities. That all of these activities should depend upon the efficiency and health of these relatively simple cells rather than upon a number of different organs is one of the strange facts of human physiology. In carrying out some of its activities, the liver works in unison with other organs. Particularly is this true of its metabolic activities. The functions in which the liver is known to play a part are outlined by Bockus[1] as follows:

(1) Excretory: The liver's chief activity is that of the formation and excretion of bile.

(2) Metabolic: There are few phases of bodily nutrition in which the liver does not play some part.

a. Carbohydrate metabolism: The liver stores carbohydrates in the form of glycogen and also supplies glucose as needed by converting the glycogen reserve to glucose.

b. Protein and nitrogenous metabolism: The liver stores a large amount of protein and also probably manufactures most of the proteins in the blood serum, especially the albumin as well as the fibrinogen and prothrombin. The liver is also the source of urea formation, this substance being the end product of deaminization of protein.

c. Fat metabolism: Fat may be formed in the liver from other food substances. The liver also desaturates fatty acids and manufactures ketone bodies.

d. Water metabolism.

e. Vitamin metabolism: The liver manufactures vitamin A from carotene and stores this vitamin. It also stores vitamin B and converts vitamin K into prothrombin.

f. Pigment and porphyrin metabolism: The role of the liver in excretion of bilirubin has been listed previously. The liver also reconverts to bilirubin some of the urobilinogen brought to it through the portal system. It is also active in the excretion and possibly the metabolism of the porphyrins.

(3) Detoxification: This is an extremely important function of the liver. It may take place in various ways which include:

a. Chemical means. This is exemplified by the conjugation of toxic substances with sulfuric acid to make sulfates, with glucuronic acid to form glucuronides or with amino acid, as the case of benzoic acid, which joins with glycine to form hippuric acid. In this way the toxic bodies are converted to substances which are harmless.

b. Excretion in the bile. Certain heavy metals such as mercury leave the body in this way, and numerous bacteria are excreted in the bile also.

*Presented before the Junior Medical Society at Huntington, January 9, 1947.

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c. Storage and possible destruction by the liver cells. This is considered to be the mode of protecting the body against various alkaloids such as strychnine and morphine. These may be held in the liver and released to the body in small amounts so that the toxic effects are lessened by dilution.

d. The activity of the reticulo-endothelial cells of the liver. This is the way dyes, bacteria and particulate substances are removed from the blood.

(4) Blood formation: The liver is one of the organs of red blood formation in the embryo. In later life, this activity of the liver is an indirect one, the organ serving as a depot for the storage of the antipernicious anemia factor and also of iron and copper.

(5) Blood coagulation: The liver is the site of formation of fibrinogen and prothrombin, two elements needed for blood coagulation. It also manufactures the anticoagulation substance, heparin.

(6) Heat production: The muscle tissues and the liver probably are the main source of body heat. The furnishing of heat by the liver is the consequence of the numerous chemical activities in which it is constantly engaged.

ADVANCES IN PHYSIOLOGY

Though our knowledge of the physiology of the liver remains incomplete, much has been learned in the past few years.

The liver is intimately connected with many aspects of the utilization of proteins and of products of their metabolism. It is also an important storage depot not for proteins themselves, but for protein substances which can be called upon in emergencies and transformed into proteins. Investigation indicates that protein depletion renders the liver much more susceptible to toxic agents. With increased knowledge of the details of protein metabolism, utilization, and storage and their application to clinical medicine, this phase of hepatic physiology has assumed great importance.

There is recent evidence to suggest that the plasma proteins (albumen, globulin and fibrinogen) comprise a single mass of loosely associated fractions. Fibrinogen production is dependent largely upon the hepatic function, decreasing following hepatectomy. It also decreases during the acute stage of liver injury by chloroform and returns to normal when regeneration occurs. Foster and Whipple[2] correlated the blood fibrinogen content with the degree of liver injury. Globulin apparently is formed readily in many different tissues, including the lungs, so that liver function is not so significant in regard to this substance. However, hypo-albuminemia is the characteristic laboratory finding in patients with advanced liver disease such as cirrhosis. This change has been shown to be the result of hepatic dysfunction rather than of malnutrition or loss of protein in the ascitic fluid.

The normal pattern of amino acid metabolism can be summarized briefly by stating that those amino acids not required immediately by the body synthesis are subject to a process of disintegration. A noncombustible portion of the amino acid molecule produces ammonia which is converted to urea and excreted in the urine; the remainder is changed to glucose (the liver possibly is the site of this conversion) or oxidized for its energy value. Even though deamidization by formation of urea is one of the main functions of the liver, one rarely finds blood accumulation of amino acids even in patients with lowered blood urea due to liver injury, although such findings have been reported in severe acute yellow atrophy. It is probably because the liver possesses a large reserve of functional capacity in this respect. MacMaster and Drury[5] found it necessary to remove 90 per cent of the rabbit's liver before observing any effect on urea formation or deamidization.

The liver is necessary not only in the absorption of fats but also in the metabolism and utilization of lipid substances. Recently acquired knowledge indicates that disturbances of fat metabolism have great significance in the pathogenesis of liver disease itself. The storage of fat in the liver is extremely variable under normal circumstances, being influenced by (1) the amount of fat in the diet, (2) the rate of fat absorption and transportation to the liver, (3) the speed by which the liver desaturates fat and makes it available for oxidization by other portions of the body, and (4) the various chemicals affecting fat deposition in and removal from the liver. In 1924 Fisher[4] and also Allen and his associates[5] reported that pancreatectomized dogs survived for only a few months even though given adequate insulin, because of marked fatty infiltration of the liver. This change could be prevented by adding raw pancreas to the diet. From this it was concluded that the pancreas might secrete a hormone required by the liver to preserve its own integrity. These were the first of a large series of investigations devoted to methods of preventing fatty deposition in the

liver. The term "lipotrophic substance" has been applied to one which decreases the rate of deposition and accelerates regular removal of liver fat. Hershey and Soskin[6] found that the lecithin and crude egg yolk could prevent fatty infiltration and Best, Ferguson and Hershey[7] discovered that choline was the active principle of lecithin in this respect. Best and Huntsman[8] demonstrated that daily feedings of 70 milligrams of choline would reduce the liver fat from 15 per cent (to which it had been raised by a high fat diet) to 3 per cent. Choline also decreases the fat deposition which accompanies starvation or follows cholesterol feedings, phosphorus and carbon tetrachloride poisoning. The mechanism of the lipotrophic action of choline has been studied intensively. No evidence has been found that it increases the rate of oxidation of fat. The presence of choline in the diet does seem to favor normal distribution of fat between the liver and body depots. Works of McHenry (quoted by Frame[9]) suggest that vitamin B-1 increases liver and body fat; vitamin B-2, liver fat; vitamin B-6, body fat, and nicotinic acid, body fat and liver cholesterol. It is possible that some of the vitamin-B factors are antagonistic to the lipotrophic effect of choline. In connection with the study of lipotrophic substances the influence of protein on fatty infiltration of the liver has been investigated. In 1935 Best and Huntsman[10] and Channon and Wilkinson[11] found that feeding large amounts of casein prevented fat deposition even when large amounts of fat were added to the diet. The ability of protein feedings to prevent infiltration is proportionate to its content of methionine. It has been concluded that the lipotrophic action of methionine is to be attributed to its ability to supply methyl groups for choline synthesis.

The original investigation which led to the discovery that pancreatectomy resulted in fatty changes in the liver and that such changes can be prevented by the feeding of raw pancreas naturally led to a search for the nature of the substance which exerted the beneficial effect. In 1936, Dragstedt et al,[12] concluded that this lipotrophic action could not be ascribed to choline or to any of the pancreatic enzymes and therefore decided that a hitherto unknown hormone must be responsible. They gave this the name of "lipocaic" derived from the Greek, "I burn fat." Dragstedt concluded that the beneficial effect of pancreas could be traced to neither choline or lecithin since he was able to prepare potent pancreatic extract in which the amounts of these substances were negligible. He described two types of fatty infiltration occurring in diabetes mellitus and pancreatic diabetes. One was the result of uncontrolled diabetes and was characterized by a high blood-lipid concentration, acidosis, and relief by insulin. The other form was characterized by low blood-lipid concentration, impaired liver function and was not helped by insulin. This type of change is relieved by lipocaic and not by insulin. Lipocaic is a hormone and is not secreted in the pancreatic juice.

ADVANCES IN THERAPY

From the above discussion it is shown that we have at least two new valuable substances in treating liver disease. Amino acids are of proved value and are best given parenterally even though the oral intake is good, since it is possible that proteins taken orally by patients with liver disease, particularly cirrhosis, may not be well digested or may be shunted away from the liver by the disturbed portal circulation. Methionine and choline have the same beneficial lipotrophic effect. An increase in functional capacity of the liver follows their administration.

MEDICAL ADVANCES

Infectious hepatitis is a disease due to a filterable agent which causes inflammatory degenerative changes in the liver and is manifested clinically by symptoms referable to the liver and alimentary tract. The previous name of "catarrhal jaundice" has been revealed to be a misnomer in both of its parts: the concept of catarrh is false, and secondly, jaundice is merely a symptom and may be entirely lacking. The term "infectious hepatitis" is considered accurate.

A group of epidemics, particularly in military service, has stimulated further study of this disease. (Among the American troops in the Mediterranean theatre there were approximately 1500 cases in 1943 and about the same number in 1944.) The fact that catarrhal jaundice could occur in epidemic form was recognized long ago by military surgeons, and waves of the disease were expected whenever large armies were assembled. It was to this epidemic form of the disease that the term "infectious hepatitis" first was applied. These viruses were suspected from the first to be sewage-born as hepatitis occurred under poor sanitary conditions along with dysentery and other known filth diseases. Neefe and Stokes[13] reported an epidemic in a summer camp in Pennsylvania, the source of which was traced directly to the drinking of well water contaminated by infected feces. There is a seasonal trend of the disease with a peak in November and early December which has not been explained.

The etiologic agent actually has not been isolated in the true sense of the word, but it has been cultured and transmitted to laboratory animals. Its portal of entry may be (1) the gastrointestinal tract, (2) the respiratory tract, or (3) the blood stream through parenteral injection. It is excreted in feces, urine, and respiratory excretion, and may be present in blood collected from the patient. Carefully controlled experiments have proved that bacteria-free filtrates of feces, urine, blood and pharyngeal washings from patients having the infection will transmit the disease when the filtrates are swallowed by, injected into, or sprayed nasally into human volunteers. Ingestion of the infectious material produces the disease most consistently. The virus of infectious hepatitis is present in the blood and the feces of patients in the preicteric or early icteric phases of the disease, but it may occur in the blood during the posticteric phase and over a considerable period of time. The exact limits of the intestinal carrier state remain to be determined accurately. Precipitation tests and complement fixation tests for infectious hepatitis have been described, but none has been found to be specific or sufficiently competent to be reliable. As a general rule specific immunity is produced by a nonfatal attack of the naturally acquired disease. This immunity, however, is not always permanent. Recurrences have been reported. Pathologic changes in the liver are those of acute hepatitis and have been described in detail from specimens obtained by aspiration biopsy of the liver. The recovery from hepatitis usually is complete restoration of the liver to normal. In some cases the lesion progresses to subacute necrosis, nodular hyperplasia or cirrhosis. The mortality rate based on jaundice cases in the Mediterranean theatre was 0.2 per cent. In fatal cases the liver showed acute yellow atrophy described by Lucke.[14]

Infectious hepatitis is the commonest type of jaundice seen in general practice. At present two main divisions are recognized on the basis of their modes of transmission. One is the naturally occurring infectious hepatitis possibly transmitted by the oral intestinal route or the respiratory tract. The other is the so-called homologous serum jaundice, transmitted by parenteral injection of materials such as blood, plasma, or serum, containing the icterogenic agent. There is some question whether one or more diseases of similar clinical and pathologic features are being grouped together under the term of "infectious hepatitis". A final statement cannot be made at the present time.

From 450 cases seen in a general hospital in Malta between 1941 and 1943, four clinical forms of the disease are described: (1) gastrointestinal type, 53 per cent, characterized by an insidious onset, anorexia (often early and unexplained) followed by nausea and vomiting, (2) febrile type, 30 per cent, initiated with an abrupt febrile onset, (3) ambulatory icteric type, 10 per cent, having no notable general symptoms, the jaundice being discovered by accident, and (4) hepatitis without icterus, 7 per cent. The last figure does not represent the true incidence of hepatitis without icterus in general.

The clinical course may be divided into two phases: (1) the preicteric phase starting with the onset of symptoms and (2) the icteric phase beginning (according to Havens[15]) with the first appearance of dark urine and terminating when the icterus index reaches approximately normal levels. Havens reported a definite preicteric phase in 83.5 per cent of cases whereas in the remaining 16.5 per cent jaundice was the first complaint. The average duration of the preicteric phase was five days in Havens', Cameron's[16] and Fink's[17] cases. In the Barker, Capps, and Allen[18] series, the preicteric phase lasted from one to three weeks in 50 per cent of the cases. Such differences are thought to be due to variable strains of virus or to different physiological types. The commonest and usually the first symptom of infectious hepatitis in the preicteric state is anorexia. Nausea is slightly less frequent, and vomiting usually occurs a little before the appearance of jaundice. Malaise and weakness are prominent. Headache was the presenting symptom in approximately one-third of the Hoagland and Shank[19] cases. Upper abdominal discomfort in the form of fullness and aching in the epigastrium and right upper quadrant was a common complaint. In about one-half of Havens' patients, the onset began with a frank chill, or chilliness, fever, malaise, headache, and generalized aches and pains. The fever was remittent with a daily peak of 102 F. and declined gradually to normal in five days. In the diagnosis of infectious hepatitis during the preicteric phase, two tests are reported to be of value: (1) the histamine wheal test and (2) the methylene blue test for bilirubin in the urine. The histamine wheal test was introduced by Kline and was used by Cameron who often found it positive two or three days before icterus was visible. The test consists of intradermal injection of 0.25 cc. of a suitable histamine preparation into a clear area of skin, usually the inner aspect of the forearm. In the normal subject a characteristic

wheal with a white center develops. In the pre-icteric stage of hepatitis, the hyperemic edge of the wheal is yellow within one-half to one minute, and the whole wheal soon is uniformly yellow. The most frequent and most important sign of developing icterus is bile in the urine which usually precedes the appearance of clinical jaundice by forty-eight or seventy-two hours. The methylene blue test for bilirubin in the urine may be positive one to six days before clinical icterus is present or before the icteric index is abnormally increased.

In Havens' series, clinical jaundice appeared twenty-four to forty-eight hours after the temperature returned to normal. As Cullinan[20] stated, the appearance of jaundice usually coincides with the beginning of convalescence and the end of initial symptoms. This observation led Hoagland[21] to remark that it is hard to escape the conviction that the principle damage to the liver subsequent to this disease appears early, and that during the major part of the patient's illness, we are observing only a sequence of phenomena having to do with regeneration of the liver parenchyma. According to Havens the icteric phase may persist from four to eighty-three days, and in exception instances up to 120 days, with an average duration of twenty-seven days. In his series the icteric index varied from 10 to 149 during the course of the disease, remaining below 90 in 81 per cent of cases. The liver is enlarged and frequently is tender in more than half the cases of infectious hepatitis. Barker, Capps and Allen[18] believe that liver enlargement will occur invariably if the patient is allowed to exercise. Splenic enlargement was noted in 10.5 per cent of Havens' cases, and 13.5 per cent of those of Hoagland and Shank.[19] Barker, Capps and Allen found that lymphadenopathy was one of the most constant and helpful early findings, occurring in 81 per cent of cases. The adenopathy was found most frequently along the posterior border of the sternocleidomastoid muscle low in the neck. Leukopenia along with neutropenia was a common finding. Vacuolation in the white cells was noted, particularly in the large mononuclear leukocytes. Spider angiomata may precede the onset of jaundice in some cases. Relapses during convalescence are quite uncommon, but more severe relapses follow too much physical exertion prior to complete cure of the hepatitis. Premature ingestion of alcohol, not necessarily in excessive amounts, is a factor in precipitating a relapse. Barker, Capps and Allen reported that in 76 of 431 acute cases the syndrome of chronic hepatitis developed.

Hepatitis resembling and possibly identical with infectious hepatitis may follow the injection of human serum, yellow fever vaccines and other vaccines containing human serum, transfusion of whole blood or plasma, and other forms of parenteral therapy. Occasional batches of serum or plasma have been found to be more icterogenic than others. This is especially true of certain lots of yellow fever vaccine. Turner and his associates[22] reported 4,083 such jaundice cases occurring in one Army camp alone in 1942. Homologous serum hepatitis may follow the use of venipuncture technics in groups of patients when the syringes are inadequately sterilized between successive punctures. Mendelssohn and Witts[23] have shown that when blood is taken from the vein with a syringe, some of the blood is sucked back into the vein with release of the tourniquet; therefore, if the syringe is not sterile, the patient is exposed to infection. They considered this to be the mechanism for outbreaks of jaundice occurring in a diabetic clinic (described by Droller[24]) and in a sanatorium (reported by Sheehan[25]). In Droller's clinic the same syringe was used for all of the patients from whom blood was withdrawn on any one morning for the purpose of determining sugar content. The needles were changed, but the syringe was only washed out before use on the next patient. Sheehan's patients had had blood taken from an arm vein for determination of sedimentation rate on admission to the sanatorium and at monthly intervals thereafter. Syringes used for the blood collections were well washed out but were not sterilized between use.

Homologous serum jaundice is characterized by an incubation period of from 60 to 120 days. The factor causing the hepatitis is a virus which is present in the serum presumably as a result of a previous latent or overt hepatitis in the donor. Witts[26] estimated that about 6 per cent of adults have a history of jaundice occurring at one time or another and that these may therefore be potential carriers of the virus. Icterus has been known to be produced by as little as 0.01 cc. of human serum, and in all likelihood the virus can be transmitted by even smaller quantities. The virus responsible for homologous serum hepatitis possibly may represent a strain different from that causing infectious hepatitis. Limited experimental observation in human volunteers has shown that although a homologous immunity to this virus is developed, no cross-immunity with infectious hepatitis is demonstrable. Likewise, clinical reports indicate that patients with a history of infectious hepatitis may have serum hepa-

titis later. The clinical differences between serum hepatitis and infectious hepatitis consist in (1) the longer incubation period of the former, (2) the impossibility of demonstrating the virus of serum hepatitis in the feces of infected individuals, and (3) the usual failure of the disease to develop after contact with persons having homologous serum jaundice.

The virus of serum hepatitis, like that of infectious hepatitis, is filtrable, is relatively resistant to heat, and is not transmissible to animals. The histologic changes in the liver of patients with homologous serum hepatitis have been shown in biopsy and autopsy studies to be indistinguishable from the changes in infectious hepatitis. About 25 to 40 per cent of the patients have a palpable and tender liver. Splenomegaly occurs in about 5 per cent of the cases.

It is well to bear in mind the possibility of serum hepatitis in individuals in whom icterus develops after recent operation or illness for which blood or plasma transfusions were given. Schiff[27] reported two patients who had malignant neoplasms removed and in whom jaundice later developed. They were thought to have hepatic metastases, when actually the icterus was due to a serum hepatitis incurred as the result of blood transfusion. In both instances the icterus eventually disappeared and the patients recovered completely. When jaundice develops a few months after surgery on the biliary tract in the patient who was given whole blood or plasma at the time of operation, a complicating lesion of the bile ducts such as a stricture, cholangitis, or a residual stone often may be suspected, when in reality one may be dealing with homologous serum jaundice.

There are two types of jaundice which may develop following the therapeutic use of neoarsphenamine and related products. One type occurs early, usually from five to twenty-five days after beginning treatment; the other type is delayed from twelve to seventeen weeks or more. The first type appears to be due to hypersensitivity of the patient to arsenic. The onset is sudden, with chills, fever, anorexia, nausea and vomiting coming on several hours after the second or third intravenous injection. Sometimes a morbilliform or scarlatiniform rash appears. Jaundice supervenes in several days and persists for several weeks or a month. In the late form of arsenotherapy jaundice, the symptoms and hepatic changes are the same as those seen in the other forms of homologous serum jaundice and infectious hepatitis. As far back as 1920 Stokes and his associates suggested that this icterus was due to infectious hepatitis, unrelated to syphilis or arsenicals. Today it is generally agreed that syphilis plays little if any role in the etiology of the delayed form of hepatitis and the importance of arsenic itself still appears questionable. Accumulated evidence indicates that this jaundice developing late is, in all likelihood, another example of homologous serum hepatitis caused by a virus introduced through intravenous injection with an inadequately sterilized syringe, the virus having entered the syringe in blood sucked back from an infected individual. MacCallum[28] transferred this form of hepatitis to human volunteers by injecting subcutaneously serum from two patients receiving arsenotherapy shortly after they developed jaundice. He was not able to transmit the disease by oral administration of fecal suspensions or by spraying such suspensions into the nose and throat.

Much has been written recently defending alcohol as a causative agent in cirrhosis. It is evident that no one single factor is responsible. Rather a host of agents acting in combination bring about progressive destruction of hepatic cells and replacement of fibrous tissue. These agents are divisible into two classes: those lowering the resistance of the liver, such as deficiencies of protein, carbohydrate and vitamins, and those leading to necrosis of the liver cells, such as alcohol, phosphorous, lead and arsenic. Alcohol, therefore, indirectly is responsible for the first and directly responsible for the latter.

SURGICAL ADVANCES

The surgical treatment of tumors of the pancreas and periampullary region which was pioneered chiefly by Allen Whipple has been proving successful. Even though this surgery is not on the liver itself, it is important to regard it along with liver disease since the differential diagnosis of jaundice must be considered. Recognition of these tumors early enough to allow for surgical removal depends upon the correct interpretation of jaundice. A more clear understanding now is made possible by some of the newer laboratory methods.

During the past few years, largely through the studies of Iversen and Roholm,[29] there has been renewed interest in liver biopsies. There are four methods in use for securing biopsy material. For a good many years some surgeons have obtained specimens for pathologic study at laparotomy. The transpleural aspiration method of Iversen and Roholm has been modified by Sherlock.[30] The abdominal aspiration approach was developed by Tripoli and Fader[31] and has been

used rather extensively by Watson and his associates. Biopsies can be obtained through the peritoneoscope by means of a special forceps attachment which is inserted through the peritoneoscope, or by the unusually large Silverman needle introduced through the abdominal wall at the time of peritoneoscopy. By combining peritoneoscopy with liver biopsy, one has the advantage of examining the surface of the liver, thus allowing selection of a suitable area for biopsy, but there exists also the disadvantage that specimens are from the more superficial portion of the liver and occasionally give a false conception of the amount of change throughout the liver itself owing to increased connective tissue and round cells just beneath the liver capsule. Though there is some danger of hemorrhage, liver biopsy now is considered a safe procedure in the differential diagnosis of jaundice and liver disease and in the future probably will come into wider use. With the ordinary methods one obtains a specimen which varies in length from 1 to 2.5 cm. and is about 0.8 mm. in width. This, as a rule, is an adequate amount of liver tissue for the pathologist to study. The chief contraindication to the procedure is the presence of prolonged prothrombin, coagulation, or bleeding times. Sherlock recommends that vitamin K be given for three days before puncture and that arrangements be made for immediate transfusion in case of hemorrhage. The patient need be kept in bed for only twenty-four hours after the procedure. In 1,200 cases of liver biopsy (some done by older technics) Sherlock reported only 8 deaths. Some of these patients were essentially moribund at the time when the procedure was carried out.

The treatment of ascites, particularly in cirrhosis of the liver, has been rather unsuccessful. Besides the usual medical forms of treatment, various attempts to obtain a more lasting relief have been made since Drummond and Morrison[32] reported the first surgical treatment of this condition. Various workers have tried different forms of anastomoses. However, generally it has been agreed that the result of these procedures is extremely poor. Whipple[33] recently shunted the blood from the portal to the caval system by removing the spleen and left kidney and anastomosing the splenic and left renal veins by means of an endothelial-lined vitallium tube. In five other cases, portacaval shunts (Eck fistulas) were produced by end-to-side anastomoses of the portal vein to the inferior vena cava. All ten of the patients survived the operation, but the follow-up period has not been long enough to determine the value of the portacaval short circuiting procedures. Crosby and Cooney[34] recently have modified the method of inserting glass buttons into the anterior rectus sheath. Under local anesthesia the anterior rectus sheath is sutured tight under the upper flange of the button, the inner portion of the button being within the peritoneum, and the skin is closed over the button. The function of the button is simple: it merely allows ascitic fluid to pass through its core and thus into the subcutaneous tissues where it is absorbed as edema fluid. The procedure is well tolerated by the patient, and it not only gives symptomatic relief and does away with repeated paracenteses, but has other advantages. It returns to the patient his own ascitic fluid with its protein content. The amount of protein lost on account of repeated paracenteses is great. In some clinics it is the practice to reinject the ascitic fluid intravenously so that the protein content will not be lost to the patient. As Crosby and Cooney explained, the button may be regarded as a mechanism by which the patient with ascitis is given a constant slow clysis of his own ascitic fluid so long as such is formed. They report five cases of cirrhosis of the liver treated successfully in this manner. Edema of the penis is an alarming complication; as a rule, however, such edema lasts only two or three months.

SUMMARY AND CONCLUSIONS

During the past few years advances in knowledge of liver physiology, particularly in regard to the metabolism of proteins and fats, have emphasized: (1) the importance of proteins and protein substances (animo acids) in protecting the liver against disease and toxic agents, and also their use in helping correct liver pathology, and (2) the importance of lipotrophic substances in influencing fatty content of the liver, and their use in the treatment of certain fatty infiltration.

The etiology, pathology and varying clinical manifestations of infectious hepatitis and serum hepatitis have been discussed. Their many similarities have been stressed; also, their failure of cross immunity and transmission and dissimilarity of incubation periods and virus excretion have been mentioned.

Liver biopsies now are considered relatively safe surgical procedures and are of invaluable aid in the differential diagnosis of liver disease. There has been new interest in the surgical treatment of ascites, particularly the insertion of an abdominal button.

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CHILD GUIDANCE IN OLD AGE

During the past twenty years or so we have heard a great deal about child guidance, and an interesting technique has been developed for the treatment of behaviour problems. The child-guidance team, led by psychiatrist, psychologist, and psychiatric social workers, has made valuable contributions to both research and therapy. Much has been learned about the causes of antisocial conduct in children, and this knowledge is of wide application to the general care of children.

So far, little attention has been given to the behaviour problems of old age, in spite of an increasing devotion to the medical and social care of the aged and infirm. It is common knowledge that many old people become just as "difficult" as troublesome children, but we are shy of facing the problem squarely. The reasons for our diffidence are clear enough: the dignity of age, the long tradition of reverence sanctioned by creed and custom, the authority which the old exercise over the young, the reputed wisdom of experience—these and other qualities tend to prevent us from studying and analyzing some less desirable features. It is embarrassing even to talk about the egoism, the obstinate clinging to power, the petulance, the readiness to take offense, and the utter childishness which sometimes mar the grave countenance of age. We have around us a number of noble ruins which deserve preservation, but at the same time require to be trimmed and kept in order.—J. M. Mackintosh, M. D., in The Lancet.

SPINAL ANESTHESIA WITH SEDATION IN OBSTETRICS

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The purpose of this paper is to present the author's clinical experience with spinal anesthesia used in conjunction with sedation (analgesia) in the management and delivery of one hundred consecutive pregnancies at term or near term, so that the clinician in the small hospital may see how the method might be applied to advantage in his practice. The various reports on the use of spinal anesthesia in obstetrics indicate its use as the sole method of pain relief as applied in large obstetrical hospitals with complete twenty-four hour resident staffs.

The clinician should ask five questions concerning any established, effective, safe procedure: (1) How can this technique be applied to my own practice? (2) How will it improve the procedure? (3) What modification in my present routine and personnel will be required? (4) What variation in time must be considered? (5) How would it work out in one hundred consecutive deliveries for me? It is hoped that the answer to these questions will be found in this paper. The method is applicable and offers many of the advantages which have been proclaimed in the professional and lay literature for the caudal block, without the latter's disadvantages and limitations which have caused disappointment and, at times, the rejection of the method. There are many phases of the principle of analgesia and anesthesia to be considered.

The excellent work of Edwards and Hingson demonstrates very clearly the importance of a local block type of anesthesia for labor and delivery.

The chief advantages presented for the caudal procedure are: (1) relief of pain during labor and delivery, (2) reduction of maternal blood loss chiefly as a result of maintenance of uterine tone in contrast to uterine relaxation during deep inhalation anesthesia, (3) relaxation of muscles in the perineal region, (4) softening of the cervix, (5) shortening of the third stage of labor, (6) prompt, spontaneous establishment of respiration in the newborn, and (7) its application in cases in which inhalation anesthesia is contraindicated because of a respiratory or cardiac condition.

The disadvantages of caudal anesthesia to the physician are: (1) the mechanical and technical difficulties associated with effective administration, (2) the special training for physicians that is required, (3) the specially trained personnel that is required, (4) the time factor (caudal requires from ten to fifteen minutes longer to become effective than spinal anesthesia; the obstetrician (or assistant) is detained four to six hours), and (5) failure due to psychic factors in the patient.

The house staffs and nurses of most of the hospitals in this locale generally have been found to be familiar with the principles of spinal anesthesia and can administer sedation to and care for these patients; the operating room and obstetrical staffs are familiar with the technic of its use. The combined use of these two technics has been found to be very effective. Some reports previously published on the use of spinal anesthesia for delivery mention either the repeated spinal tap for the relief of pain, or the use of spinal anesthesia exclusively for delivery, in the latter case apparently ignoring the advisability of offering comfort to the patient during her hours of labor.

Relief of pain during the prolonged period of labor and during delivery is the physician's duty or, certainly, his privilege. There are certain communities in which women have been led not only to expect, but actually to demand a measure of comfort during their ten, twelve, or eighteen hours of labor.

Pain during the early part of labor is not so difficult to control with some form of sedation and analgesia. It is later, when the labor pains become severe and frequent, and when repeated administration of sedation is necessary, together with the consideration of additional deep inhalation anesthesia, that the factors of safety must be considered.

The writer previously has used paraldehyde drams 5 orally, repeated if necessary with paraldehyde drams 3 in thirty minutes, for analgesia. Nembutal grains 3 orally, with demerol mg. 100 and scopolamine grains 1/150 hypodermically, have been used recently with increasingly gratifying results. The administration is simple, not objectionable to the patient; the method is effective, safe, quick, and greatly minimizes nursing care.

The spinal anesthesia was given approximately when the cervix was completely dilated, or when delivery was expected within two hours. It usually was administered in the patient's room. The patient was turned on her side for injection in order that the effects of the sedation might not be

disturbed more than necessary (as would be required in the sitting position). The head of the bed was elevated promptly.

The writer prefers 18 mg. of pontocaine with equal parts of 10 per cent glucose, because such is the dosage which has been used on the surgical service for a high percentage of the pelvic cases, and the duration and possible reactions are well known. This procedure offers the same advantages of continuous caudal anesthesia while eliminating many of its disadvantages, some of which are: (1) the patient is made comfortable during her labor, (2) blood loss is minimized by avoiding general anesthesia and by taking advantage of the continued good tone of the uterus which is found in the lumbar block type of anesthesia, (3) the perineal muscles are relaxed, (4) the cervix softens more quickly, and (5) the fetus is found to be in good condition, as a result of not having been subjected to the additional depressing effect of a general inhalation anesthesia. The child usually breathes spontaneusly, its color is good, and only the simple procedures of suction and wiping out of the mucus usually are required.

Many of the disadvantages of continuous caudal anesthesia have been avoided. The one injection spinal method avoids the disadvantages of the retained needle (the possibility of infection and trauma). Generally speaking, the spinal tap is a procedure frequently used. It is much less difficult, is much more quickly done with a greater degree of certainty and efficiency (knowing definitely and quickly when the correct location of the needle has been reached), and a much smaller dose of medication is required. Also, relief from pain is rapid.

Usually, the physician is well trained in the spinal tap method, or there are other physicians available for such procedure. Depending on the drug used, the anesthesia effect lasts from two to three and one-half hours. The excellent work by Adriani and Parmley presents the time factors and technic of this procedure, using the different drugs. There are many advantages in using a technic similar to that used in the operating room. The dosage of the medication and the possible reactions or complications can be watched more carefully and prompt methods used to correct unfavorable symptoms when a uniform, familiar technic is used. Sedation and spinal anesthesia are a familiar combination in the majority of hospitals, and instructions concerning the care are widespread and thorough. The nursing staff can effectively and safely carry on sedation during the first few hours of care, the physician being required only during the last hour or two of labor and delivery.

The promptness with which spinal anesthesia works, and the high degree of certainty and assurance which one feels with its use, are very gratifying. This is in marked contrast to the uncertainty and, at times, tension which accompany the use of the caudal method of block. Also, the use of a sedative relieves certain psychic factors encountered in the use of caudal anesthesia without other sedation.

One of the problems which the writer faced was that of trying to train the obstetrical services of the various hospitals to put in a call one or two hours before delivery was expected. That this point could be worked out satisfactorily is evidenced by the fact that in 105 consecutive cases considered for spinal in seven different hospitals, only 12 cases were delivered before the full benefit of the anesthesia went into effect. The writer administered the anesthesia and carried out the delivery. Eventually, as nurses become increasingly adept in anticipating and estimating the time, the physician may be given the required hour or more of notice instead of the usual fifteen or twenty minute warning. In other words, the staff calls the physician before the head presents on the vulva. While this may sound somewhat difficult, the answer is that with the staffs of the different hospitals (considering the first hundred unselected cases) the results were exceedingly gratifying.

In my series of cases there were no failures nor was there any contraindication to the method. When administered in a larger series no doubt there will be cases of failure and/or of contraindication. No increased difficulty was noted in performing the tap due to the enlarged abdomen and the limitation of flexion of the spine.

The patients in this series who failed to receive the medication may be divided into two groups: (1) those whose deliveries were too rapid or too unpredictable, or who presented themselves at the hospital too late to permit the necessary planning and technic, and (2) those who failed to receive the medication as a result of improper judgment on the part of the house staff in giving notice.

The routine obstetrical procedure of being called by the hospital staff was followed in this series. The writer did not notice any additional inconvenience or loss of time in waiting around. The nurse looked after the patient until the anesthetic was administered.

CONCLUSIONS

1. Spinal anesthesia (pontocaine 18 mg. with equal parts of 10 per cent glucose) has been found to be a workable, effective, satisfactory method of obstetrical anesthesia. It is safer, simpler, and more precise.

2. Nembutal grains 3 orally, demerol mg. 100 with scopolamine gains 1/150, have been found to be excellent as sedation and analgesia until the delivery anesthetic is required.

3. The technic making this procedure usable in the small, general hospital is outlined.

4. One hundred five cases in which this method was used, are analyzed.

SUPPORTIVE TABLES

I

Number of consecutive obstetrical cases for anesthesia	105
Spinal anesthetic used	91
Spinal anesthetic not used	14
(Too late	12)
(Refused	2)

II

Type of Delivery

Caesarean section	3
Vaginal route	102

III

Parity

Gravida 1	47
Gravida 2	31
Gravida 3	18
Gravida 3-8	6
Gravida 8-10	3
	105

IV

Number of Injections (Spinal)

1 injection	90
2 injections	1

(Sedative (paraldehyde) not effective in asthmatic; not suited for general anesthesia.)

V

Mortality

Maternal	0
Fetal	3

7 mo. lived 12 hrs.
6½ mo. stillborn (too late for anesthetic)
Term (Large baby; prolonged, difficult labor; midwife 24 hrs. before admission to hospital. Baby died 24 hrs. after birth).

VI

Type of Spinal Anesthetic (Drugs Used)

Pontocaine	78
Metycaine	10
Novocaine (crystals)	3

VII

Anesthesia Difficulties

Shock and depressed respiration	2

(1 Caesarean section; 1 vaginal delivery which responded to elevation of head, deep breathing and stimulation).

VIII

Paraldehyde	53
Nembutal with demerol and scopolomine	51
None (refused)	1
	105

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MISINFORMATION PLEASE

When a physician is guest at a dinner party he does not want to talk shop, but how is he going to avoid it? It is considered rude not to answer questions. He can but sit patiently and murmur polite but indistinct replies to the battery of questions which assail him from all directions. "Celery is good for you, isn't it, Doctor?" "You shouldn't drink water with your meals, should you, Doctor?" Questions of this type usually accompany the first course.

As the meal progresses, the subjects grow more serious and the physician, as a rule, has the opportunity to catch up on the latest misinformation. He hears first from one side, then the other, such statements as, "Oh, no, she didn't have scarlet fever, she had scarlatina," "a seven-month baby lives, but not an eight-month," "as long as a mother nurses her child, she cannot conceive," "when 'shingles' goes completely around the body and meet in the middle, it is fatal," "if a pregnant woman bends over at the waist without bending the knees it is sure to wrap the baby's cord around the neck and is liable to choke it to death."

When we recall that John Hunter, 1728-1793, had the erroneous belief that gonorrhea and syphilis were identical diseases and this idea prevailed until it was overthrown by Philippe Ricard, 1799-1889, we can afford to be charitable toward our lay friends of 1947. After the preliminary introduction and a more accurate orientation, "What kind of a doctor are you?" you may be forewarned further by the gleeful outburst, "Here's where I am going to get some free advice."

If you would escape a pedantic dissertation on pseudoscience interspersed with fusilades of an embarrassing inquisition to change the monotony, this is the time to negotiate with adroit strategy your table companions, and if you are fortunate enough to find seating between disciples of Mary Baker Eddy who "do not believe in sickness" you may experience a heavenly calm. On vacations the wife should be admonished against titular introductions. It is grand to be called "mister" now and then; Tom, Dick and Harry are good names and Axel will do in a pinch.—The Journal-Lancet.

ORAL MANIFESTATIONS AND SYSTEMIC BLOOD DISEASES—A REVIEW

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The general practitioner and, more particularly, the otolaryngologist, who remain alert to the fact that systemic disease sometimes shows its first clinical manifestation in the mouth often have the opportunity of initiating studies that will lead to an early diagnosis of a general disorder. In the field of blood diseases or dyscrasias this is especially true, and such evidence all too often may be neglected as an indication for routine blood examination.

THE LEUKEMIAS

The various leukemias are of especial interest. In many cases leukemia escapes proper early interpretation because of its resemblance to septic sore throat, stomatitis, vitamin deficiency, or Vincent's infection.

The acute leukemias tend to strike children and the younger age group of adults. Onset usually is sudden, with the soft tissues of the mouth, gums, tongue and palate swelling early and turning slightly pale. The mucous membranes of these areas (of the gums in particular) bleed easily, and small, spontoneous petechial hemorrhages may be seen. As the process continues, the epithelial and submucosal layers undergo exudative and necrotic changes so that irregular areas of the lining membrane slough. Such sloughing leaves ulcerations that give a foul odor to the breath. The foul odor plus the finding of the fusiform bacillus and spirochete as secondary infectors of the lesion often lead to a mistaken diagnosis of Vincent's stomatitis.

Associated general symptoms and signs may recede, appear simultaneously with, or follow the oral findings. Some of these are pallor, malaise, lassitude, irregular fever, enlarged lymph nodes, and palpable spleen and liver.

True diagnosis and establishment of the type of disorder depends upon the blood picture and bone marrow studies. An outstanding feature of the acute form is rapidly progressing anemia. Platelet counts are lowered and there is a drop in hemoglobin as well as the number of red blood cells. The white cell count commonly is expected to be elevated but it should be noted that it may fall below normal or be only moderately elevated. Final analysis rests on the differential smear with a study of the cells themselves. Immature myeloblastic, lymphoblastic, or monoblastic response assigns the proper diagnostic pigeon hole for the doomed patient.

The chronic leukemias more often are linked with enlarged tonsils and sore throat and thus mistaken for the more prevalent disease entities of septic sore throat and tonsilitis. Ulcerated areas have been suspected of being syphilitic or tuberculous in origin until the blood has been examined.

The pathologic processes are essentially the same in the chronic as in the acute leukemias except that the tendency in cases of the former type, is for them to be a little slower in developing and making themselves known. Chronic forms usually are not seen in children and young adults, but rather in the older or middle-aged group. In time, swelling, pallor, hemorrhages, and ulcerations of oral mucous membranes, as in the acute forms may become evident. Excessive bleeding following a tooth extraction may be the first insidious warning.

Some general signs and symptoms elicited are a feeling of fullness in the upper part of the abdomen or even pain in the left upper quadrant due to an enlarged, palpable spleen, progressive weakness and fatigue, increasing pallor, loss of weight, dyspepsia, lack of power of concentration, palpable lymph nodes, and irregular bouts of low-grade fever.

The erythrocyte count and the hemoglobin are reduced. Platelets vary; they may be high, low, or normal. The total leukocyte count is extremely high and may go over 100,000. The lymphatic form shows a preponderance of young lymphocytes in the smear while the myelogenous variety will display all types of immature white cells.

Some authorities differentiate the acute from the chronic forms by saying that cases with a fatal outcome in only six months or less are acute, and that the others are subacute and chronic. This statement is not accurate and a proper prognosis depends on regular blood studies and the degree of immaturity of the cells observed.

General supportive measures, oral hygiene, rich diet, vitamin supplements, careful chemotherapy of intercurrent infections, and frequent blood transfusions may prolong life, but the eventual end is certain. In the chronic forms (in particular the lymphatic), controlled irradiation seems to delay the disease temporarily. The time-honored warning must be sounded again, however, against pushing an acute case abruptly

over the brink by the injudicious use of radiation therapy. It is strictly contraindicated in the case of any acute leukemia.

THE NEUTROPENIAS

In contrast to leukemia is neutropenia, which may be acute or chronic. Therefore, it too, may be severe and fulminating, or mild and insidious.

Ulcerations of the mucous membrane are characteristic of this condition and may occur in any part of the body in which such membrane exists but more often are seen in the mouth and throat. These ulcerations are not due to any particular bacteria but are the result of lowered tissue resistance to whatever bacteria may be present. The lesion in the mouth or pharynx goes through a stage by stage process of inflammation, thus: The area first becomes hemorrhagic and reddened, then cyanotic and slightly blue, and, finally, necrotic and ulcerated. Grossly, the ulcer has a clear-cut margin with a zone of no inflammation about it although the contiguous tissues may show an intense edema.

In some cases a systemic reaction ensues that is very toxic in nature thereby predisposing to the impression of an acute bacterial incident. "Strep throat", acute follicular tonsillitis, and even diphtheria have been the mistaken diagnoses at times because of the oral findings and the toxic reaction of the patient. Also, the presence of Vincent's organisms at times has led to the use of arsenical therapy which, since it depresses the hemopoietic centers, may in reality aggravate the condition. By the same token, in cases in which sulfonamides have been given for the inflamed throat or tonsils the same danger may be provoked.

As in the case of the leukemias, the diagnosis depends on blood and bone marrow studies. The latter, during an attack of the acute form or an exacerbation of the chronic form, shows a characteristic picture: The erythrocytic tissue is almost normal but the granulocytic tissue shows a decided decrease, sometimes even total absence, of young white cell forms. The few that may be present are distorted and atypical. In other instances, instead of the absence of white cell formation, we may find hyperactive granulocytic centers; but if we study the cells closely an arrest of normal maturation is found, usually at the myeloblastic level. This phenomenon has led some writers to propound the theory of a lack of of what they call a leukocytic maturation factor analogous to the intrinsic factor of pernicious anemia, but this speculation cannot be proved.

The blood shows a decreased total white cell count, a normal red cell count, a normal hemoglobin percentage, and a normal platelet count. Differential studies show a complete or heavy loss of neutrophils with depletion of lymphocytes and monocytes.

Management of these cases often depends on finding the cause of the depressed bone marrow. It must be remembered that certain drugs cause neutropenia; the sulfa drugs are notable examples as well as old offenders such as the arsenicals and benzene ring derivatives, and, more recently, amidopyrine, and others. Then, too, one must recall that diseases like measles, mumps, undulant fever, typhoid, and influenza, to name a few, are associated with a low white cell count. In these diseases, however, the condition is transient and disappears with the recovery or the developing resistance of the patient. Vitamin deficient diets, improper cortical adrenal function, and excessive radiation also may be responsible for a low white cell count.

In other cases the causative agent may never be found, and the etiology remains as obscure today as it was a generation ago. This fact does not release the physician from the responsibility of attempting to find the cause with any and all means at his command.

Since persons with neutropenia in either form are prone to what may be a fatal infection, all accepted remedies should be used when needed. Removal of the offending agent may suffice, but such measures as oral hygiene, general advice, correct diet, vitamins, blood transfusions, and liver extract should be used if needed. More recently pentnucleotide has been shown to be of benefit. Recommended dosage depends on the severity of the illness and the response of the patient to the preparation as checked by regular laboratory studies.

THE ANEMIAS

Switching now to the erythrocyte component of blood, one may find evidence in the mouth of what turns out to be the first lesion of a systemic anemia.

Such serious conditions as the hemolytic anemia of infection or prolonged sulfonamide therapy, the microcytic, hypochromic anemia of chronic blood loss, the dietary microcytic, hyperchromic anemia, and the macrocytic, hyperchromic anemia of sprue, pellagra, and pregnancy may be first noted in changes from the normal of the appearance of the mouth. These changes are not as typical or as marked as they are in some of the other blood diseases, but the

examiner may note a decided pallor of the oral mucous membranes, membranes that bleed easily, or membranes that fail to resist infection well. Redness and smoothness of the tongue due to atrophic papillae are even more incriminating. In any event, hematologic studies are indicated to determine the type of anemia and the course to follow in order to discover the causative agent so that proper remedial measures may be employed.

Pernicious Anemia. — Among the anemias, the pernicious form monopolizes the spotlight as the leading one to invite attention by oral changes. Blotchy, painful, reddened areas on the cheeks and tongue have been known to appear before the blood changes become diagnostic. As the disease advances, the papillae of the tongue atrophy, giving that organ a smooth appearance. The tongue may swell, redden, and become painful to movements as carried out in speaking and swallowing. Ulcerations, while more common as a result of defects in the white cell organization rather than in the red, may occur on the mucous membrane surfaces. Other symptoms and signs are general pallor of all skin and membrane surfaces, loss of appetite, progressive weakness, numbness and tingling of the extremities, poor vision at night, and a weakening of proprioceptive judgment. Gastro-intestinal symptoms vary or may be absent. Diarrhea is not uncommon, nor is constipation. Lack of appreciation of vibratory sensation (tuning fork tests on tibia) is a bit of neurological evidence. Gastric studies usually reveal a low or absent free hydrochloric acid.* There may be palpable enlargement of the spleen and liver.

Especially during a relapse the blood picture is typical though there may be a turn towards normal during periods of remission. The total erythrocyte count is low with a hemoglobin percentage that is proportionately less reduced. Differential and other studies disclose an enlarged red cell with a heavy stain referred to as macrocytic hyperchromic. These cells vary in size and shape from the normal and from each other. Anisocytosis and poikilocytosis are present. The platelets are reduced and it is not rare to find immature red cells such as normoblasts and myeloblasts in the peripheral blood. The white cells show a relative lymphocytosis due to the relative decrease in the number of polymorphonuclear cells.

Early diagnosis is important because early supportive therapy, which includes proper diet, liver extract, vitamins, dilute hydrochloric acid, and the new drug, folic acid, will arrest the process before irreversible changes in the tongue and the tracts of the spinal cord take place.

Aplastic Anemia. — Aplastic anemia is classically divided into primary and secondary forms. The primary form usually occurs in young people and the reason for this is unknown except that there is a decreased formation of all the formed elements of the blood. Bleeding from the nose, gums, and other membranous surfaces is frequent. There may be ulcerations of membrane surfaces and secondary infection about nasal and oral cavities. All body surfaces demonstrate an anemic pallor, but there is no enlargement of the glands, the liver, or the spleen.

Hematologic examinations show that the red cells, white cells, hemoglobin, and platelets are uniformly diminished. There will be little change noted in the shape and size of the erythrocytes. A relative lymphocytosis is present due to the absence of neutrophils, but the over-all count is low.

The pertinent factor concerning this entity is correct diagnosis. The low platelets and the hemorrhages may mislead one to the diagnosis of one of the purpuras. The low leukocyte total may be mistaken for agranulocytosis. In any event, despite blood transfusions and other attempted deterrents, the prognosis for the primary form is limited and the disease fatal. Proper identification, therefore, is paramount.

Secondary aplastic anemia, on the other hand, is another problem. It may be caused by clinical and physical agents such as x-ray or radium, by systemic diseases such as nephritis, Hodgkin's disease, and malignancy, and sometimes by the prolonged use of drugs such as benzene ring derivatives or the arsenicals.

The findings, symptoms and signs, essentially are the same as those of the primary type. The important point is to determine the cause and eradicate it. Thereupon, the patient will recover. Accurate histories, detailed laboratory studies, and even biopsies may be needed, as the cause itself may imperil the life of the patient more than does the anemia.

CONGENITAL HEMOLYTIC ICTERO-ANEMIA AND SICKLE CELL ANEMIA

It is not the purpose of this paper to discuss all the hematologic dyscrasias, but it should be pointed out that such maladies as congenital hemolytic ictero-anemia and exacerbations of sickle cell anemia, a hereditary disease of the

*Most observers agree that the diagnosis of pernicious anemia cannot be made in the presence of any hydrochloric acid in the stomach.

Negro race, may cause minor oral disturbances. Such disturbances are rare and do not produce a really typical oral picture. Jaundice, hepatomegaly, splenomegaly, marked pallor, and marked progressive weakness that come and go in exacerbations either by themselves or in connection with oral disease should be indications for proper laboratory examinations to make an accurate diagnosis.

Congenital hemolytic ictero-anemia shows a drop in hemoglobin and total number of red cells, not marked during remission, but, decidedly so during an exacerbation. The leukocyte count tends to be slightly above normal in between times, but may show a stimulated response with a shift to the left during acute episodes.

Congenital ictero-anemia characteristically gives rise to a number of immature red cells and reticulocytes in the peripheral blood. Some of the erythrocytes appear small and darker staining than usual, the so-called "microspherocyte", which some observers consider pathognomonic.

The most important single laboratory test in this disease is the hypotonic saline test. Normal blood in hypotonic saline solution series begins hemolysis at 0.42 per cent and is complete at 0.34 per cent; the blood of the patient with hemolytic ictero-anemia begins at 0.48 per cent and is complete at 0.42 per cent. Fortunately, most of these cases respond well to splenectomy.

Sickle cell anemia, on the other hand, has no known cure or deterrent other than blood transfusions which give only temporary relief. In the gross picture the two are almost alike in symptoms and signs, but in the laboratory there are no characteristic microspherocytes or hypotonic saline tests. Also, as mentioned before, sicklemia is restricted to those persons of the Negro race or those with an element of Negro heritage.

Like so many other disorders, identification depends upon a study of the cellular morphology. The red cells take on a crescentic or sickle-shaped form. The blood of a patient with an exacerbation will, perhaps, spontaneously show this, but it may be absent or so slight as not to be noted during the free period. If a thin sample of blood is put under a cover glass, then sealed off with wax so that no oxygen reaches the cells for twenty-four to forty-eight hours, they will assume this diagnostic crescentic shape.

The author made a brief study of this disease several years ago. It was found that in most cases, despite transfusions and other measures, the patient usually died of intercurrent infections before he reached the age of thirty.

THE PLUMMER-VINSON SYNDROME

Lastly, under the anemias, the Plummer-Vinson syndrome should be mentioned. This syndrome is peculiar to women. It is a hypochromic, microcytic anemia accompanied by dysphagia and chronic atrophic changes in the mouth, pharynx, and upper end of the esophagus. This disease, in many instances, is characterized by a lack of free hydrochloric acid in the stomach. Patients with this syndrome show a good response to iron therapy by mouth.

POLYCYTHEMIA VERA

A constitutional disease directly in contrast to those of the anemic classification is that of polycythemia vera. In this disease there is an excessive production of all the elements of the blood. The total erythrocyte count is far above normal and may reach as high as seven million or more. The hemoglobin percentage is increased and there usually is moderate leukocytosis as well as increased blood volume and platelet count. The blood pressure is normal, but there is an enlarged spleen and a distinctive "red" cyanosis of the face, hands, feet, lips, and mucous membranes of the mouth and other cavities.

In the main, oral findings are seen in the tongue. It becomes larger than normal, beefy red in color, and furrows and fissures may be obvious on the surface. Hypertrophy of the papillae causes a granular appearance. The vascular engorgement is so marked that often these patients report that they have had a severe hemorrhage after a dental extraction or that they are able to suck blood from their tongue.

In addition to the increase in all blood elements as reported above, it may be noted that not only are there more of all the cells, but that many of them are immature.

Treatment is aimed at relieving the congestion. Radiation of the long bones temporarily inhibits the overactive hemopoietic marrow cavities. These patients make good blood donors and repeated drainage of the excess blood is, for the time being, beneficial. All relief, however, is transient, for the disease is progressive and fatal.

HEMORRHAGIC DISEASES

Abnormal findings are not limited to the erythrocytes and leukocytes. A third element of the blood, the platelets, may go awry and be the source of the patient's distress.

THE PURPURAS

Primary idiopathic purpura is a hemorrhagic disease in which there is a reduction of the number of platelets. Petechial, spontoneous areas of

bleeding are warnings of this disease. Often they are first seen in the skin or mucous membranes of various cavities such as the mouth, the gums, or the nose. If allowed to continue unchecked or unrecognized, hemorrhages may occur in the brain, the kidneys, or in other organs with serious, even fatal, results.

Unless the bleeding has been severe or prolonged and thus has produced an anemia and slight neutrophilic response, the blood picture essentially is normal except for the low platelet count. Other peculiarities are seen in other tests. There is normal coagulation time (normally up to 20 minutes for the open test tube test), but bleeding time is prolonged (normally 1 to 3 to 5 minutes). It will be noted also that the clot, when it forms, does not retract as it should.

Mortality figures for splenectomy in these cases are 10 per cent or less. Removal of the spleen is followed by permanent improvement since the platelets no longer are destroyed too rapidly.

In diagnosing this condition it must be remembered that secondary thrombocytopenic purpuras can occur. In these cases there are low blood platelet counts due to interference with normal bone marrow function. Some frequent causes are aplastic anemia, excessive irradiation, leukemias, and chronic intoxication or infection.

HEMOPHILIA

The somewhat opposed state to the purpuras is hemophilia. This has been proved to be due to a sex-linked recessive Mendelian gene of the chromosomes. It is transmitted by way of the female to affect only males. It has been rather conclusively shown to fall into the path of hereditary laws.

Anemia, if present, is due to blood loss. Other than a long coagulation time, contrasting with the purpuras in this respect, all findings in the blood are within accepted normal limits. This fact even holds for the platelets.

These patients, though rare, are dreaded by any physician or surgeon. In such cases spontaneous hemorrhages from any site are possible; and, worse, hours may be required to control bleeding from the slightest abrasion or laceration. Repeated transfusions, foreign protein injections, placental extracts, and snake venom are of some benefit, but such relief is transient and only a very pessimistic prognosis can be made.

PURPURA-LIKE STATES

Before leaving the subject of the platelets entirely, it should be briefly mentioned that there are purpura-like states in which the platelet count is normal. Bleeding time, coagulation time, clot retraction, and all other tests are normal also. However, small hemorrhages are seen. These are attributed to a basic disorder in capillary fragility. Among the many causes avitaminosis, cachexia, scurvy, purpura senilis, chronic nephritis, pericarditis, anaphylactoid purpura, chronic intoxications, and, sometimes, acute toxic diseases such as scarlet fever or meningitis may be mentioned.

INFECTIOUS MONONUCLEOSIS

This disease, strictly speaking, is not accepted by most observers as a systemic blood disorder; however, infectious mononucleosis causes changes in the hematologic findings which are peculiar to it alone, and therefore should be reviewed.

Although a virus is currently receiving the focus of attention as a possible cause of the disease, the exact origin is unknown. The condition may be acute or subacute, severe or mild. It may be sudden in onset or insidious. It may pass from one member of a family to another. It often goes unrecognized or is mistaken for pharyngitis, tonsilitis, or even influenza.

Common complaints are sore throat, dysphagia, fever, malaise, and chills. The temperature may reach 102 or 103 F. or it may be low grade and remittent in character. Some cases will maintain a decided elevation of temperature for two or three days which will then drop by lysis; in other cases there may be intermittent periodic relapses and low grade fever for weeks.

Bilateral cervical lymph node enlargement appears early. These glands are discrete, do not suppurate, and are very tender during the course of the disease. A maculopapular rash may appear and confuse the issue with the suggestion of measles or scarlet fever. The headache and stiff neck that appear in some cases may be misleading too.

The main changes in the mouth occur in the lymphoid tissues of the tonsils, the adenoids and other structures. These may vary from a simple hyperplasia to an ulcerating lesion, depending on the severity of the malady and the resistance of the victim. The mucous membrane of the oral cavity, and particularly of the pharynx, appears thickened and red due to edema and areas of subepithelial lymphoid changes.

Again diagnosis is confirmed by blood studies. There is both an absolute and a relative lymphocytosis. The total white count may vary from

about normal to thirty or forty thousand. A peculiar lymphocyte appears in the stained smear. It is larger than normal in size and displays a young unindented nucleus. These nuclei sometimes are reported as monocytes, hence the name of the disease. Although the relative percentage of monocytes does actually increase, it would be more nearly proper, technically, to report these monocyte-like lymphocytes as "atypical lymphocytes". Coincident with this there is a mild depression of neutrophilic cells. The remaining elements (erythrocytes, hemoglobin, and platelets) are normal.

The final diagnostic criterion is the heterophile antibody test. No other disease gives a response in so high a titre. Some observers consider a positive agglutination report of 1/128 as diagnostic; most are content to accept 1/64, however.

It should be remembered that it is not rare for the blood to be slow in returning to normal. It may be weeks after all symptoms have disappeared before the full predisease state is reached. The antibody test, it has been said, may remain positive for years.

Though convalescence often is slow and marked with remissions in many instances, the disease is self-limited and carries a low mortality. Isolation usually is advised, but it is not considered a matter for rigid discipline. Treatment, in brief, is symptomatic. Chemotherapy has proved to be of little value. In view of the possibility of sensitization or of developing a resistant strain of secondary invaders, chemotherapy probably is contraindicated.

COMMENT

I do not wish to imply that every case of oral ulceration, tonsilitis, pharyngitis, et cetera, should be exhaustively studied. Such a procedure is not practical in the everyday office practice of medicine. Even if it were done, it is highly doubtful that the overall results would justify the effort except for purely scientific or academic interest.

The relative percentage, by comparison, of blood dyscrasias to the more common diseases of the mouth and throat gives a fairly safe margin for the physician to "get by", in most cases, with first impression diagnosis. However, any case that is atypical, any case that shows spontaneous or easy bleeding, any case that does not respond properly and quickly to routine therapy, and any case that shows changes in the color, size, and texture of the tongue should be viewed with suspicion.

A general history and a general physical examination, unfortunately, are not always elicited and carried out but certainly should be whenever any suspicion is aroused. If such a procedure brings out progressive weakness, fatigue, pallor or jaundice, palpable liver or spleen, or lymphadenophy, the need for laboratory studies becomes readily apparent.

Finally, it should be emphasized that in any examination a great obligation is placed upon the examiner. The mouth and oropharynx deserve as careful examination as do all other parts of the body. Likewise, the examiner must bear in mind his basic training in anatomy, pathology, and systemic diseases. Then, and then only, can he properly interpret what he finds.

CHRONIC RHINITIS

To the most recent of those repulsive minor medical bug-bears in which the American public delights has been given an equally repulsive name, "postnasal drip." It brings up the rear of quite a procession of fearsome public enemies: halitosis, barber's itch, pyorrhea, "strep" throat, "athlete's foot," and some others. So states Dr. Proetz regarding a disagreeable symptom that brings many patients to see the otolaryngologist.

The above is one of the almost constant symptoms along with nasal obstruction which bring the patient with chronic rhinitis to the doctor to seek relief. Nasal obstruction is almost constantly present, varying from partial permeability to complete closure of the nasal chambers. Nasal obstruction constitutes a very annoying symptom; this is especially true at night. The obstruction alternates from side to side, ofttimes changing rapidly without apparent cause. Mouth breathing at night is frequently complained of, which results in extreme dryness of the mouth and throat. Other symptoms frequently mentioned are tinnitus and a sense of fullness in the ears, with a slight loss of hearing in some individuals; sensations of fullness about the forehead with intermittent attacks of pain over the frontal sinus area; cough and constant clearing of the throat due to the presence of secretion in the throat.

Due to the fact that all too frequently many otolaryngologists tend to belittle or ignore these almost constant and worrisome complaints in chronic rhinitis, and the frequency with which these patients tend to elevate their symptoms into the realm of a serious illness and demand relief, it behooves us to attempt a rationalization of the etiology and treatment of this common condition. We feel that more consideration should be given to these patients.—Ralph W. Rucker, M. D., in J. Oklahoma St. Med. Assn.

YOUTH

Youth is not a time of life, it is a stage of mind, a quality of the imagination, a vigor of the emotions. Nobody grows old by living a number of years. People grow old only by deserting their ideals. Whether 70 or 16, there is in every being's heart the love of wonder, the sweet amazement of the stars and the star-like things and thoughts, the unfailing child-like appetite for what next. You are as young as your faith, as old as your doubt, as young as your self-confidence, as old as your fear, as young as your hope, as old as your despair. So long as your heart receives messages of beauty, cheer, courage, grandeur and power from the earth, from man and from the infinite, so long are you young.—Sam Uhlman, as quoted by Herman L. Kretschmer, M. D., in Illinois Medical Journal.

CARBON TETRACHLORIDE POISONING WITH REPORT OF A CASE

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Carbon tetrachloride is a protoplasmic poison causing histologic changes in the liver, kidneys, central nervous system, gastrointestinal tract and heart. Poisoning occurs either by ingestion of the chemical or inhalation of the fumes, and the clinical picture depends on the manner of intoxication. Trier[1] stressed the frequency of renal damage from inhalation of the chemical and demonstrated the histologic changes in the kidneys in many fatal cases of inhalation poisoning. According to Goodman and Gilman[2] the frequency of renal involvement following inhalation of the fumes is due to maximal absorption of the poison into the general circulation and an attempt by the kidneys to excrete it. Ingestion of the drug in toxic amounts, however, invariably is followed by liver damage and less frequently by renal damage, which is explained by Lamson[3] and his associates on the basis of a greater concentration of the poison in the portal than in the general circulation. Symptoms of poisoning, therefore, may indicate hepatic damage, renal damage or hepatorenal pathology. It is the purpose of this paper to present a case of the hepatorenal syndrome following ingestion of carbon tetrachloride and to discuss the symptomatology, toxicology and pathology of the poison.

CASE REPORT

The patient, a 26 year old white male, was admitted to St. Joseph's Hospital on the service of the senior author (F. J. G.) on January 17, 1946, with complaints of nausea and vomiting, diarrhea, pains in the abdominal and kidney regions, fever and general ill feeeling. Thirty-six hours prior to admission he had swallowed a mouthful of carbon tetrachloride, which had been mistaken for whiskey. Immediately afterwards he drank milk and egg whites and vomited. He then consumed three bottles of beer and several jiggers of whiskey and felt well until the next day when diarrhea with the passage of burning, watery stools ensued. Severe body pains and headache, vomiting and the voiding of dark-colored urine followed. These symptoms persisted throughout the day. That evening he called his family physician who advised hospitalization. His past history disclosed that he had been discharged from the army two days prior to admission, having served fourteen months in the South Pacific, where he was treated for combat fatigue. His general health was good. He was a moderate user of alcohol.

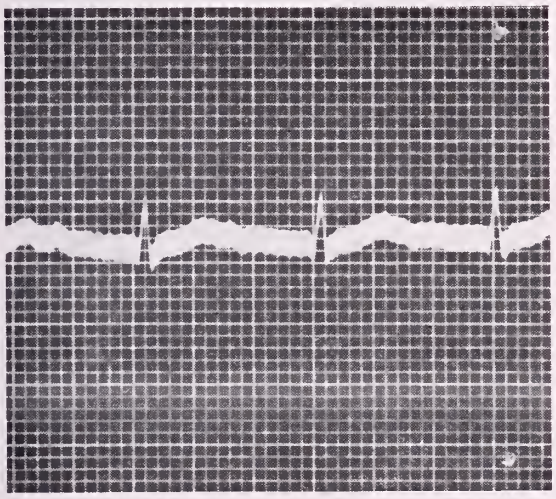
Physical examination showed a young white male with an anxious facial expression. His temperature was 102 F., his pulse rate 120, and his respiration rate 22. The skin was hot and dry with icterus of both the skin and sclerae. The tongue was heavily coated and the breath had a volatile odor. The blood pressure was 130 systolic and 70 diastolic. The abdomen was soft and slightly distended. The liver was palpable two fingerbreadths below the costal margin with acute tenderness present over the liver and both kidney regions. Physical examination otherwise was normal.

Course in the Hospital. — During the first week the patient was quite irritable, and, at times, irrational. Vomiting was a constant symptom and dyspnea was progressive. He complained of severe pain in the chest and back. His urinary output progressively decreased with complete anuria on the eighth and ninth days. Nitrogen retention (N. P. N.) at this time was marked — 232 milligrams per hundred cubic centimeters. Fibrillary muscular twitchings and insomnia were present. Punched out ulcers appeared on the margins of the tongue and constipation progressed to obstipation. There was anasarca and orthopnea.

Physical examination now showed the heart to be enlarged and the blood pressure to be elevated to 170 systolic and 115 diastolic. Moist rales were heard at the bases of the lungs with a leathery pleural friction rub in the left axilla. No pericardial rub ever was elicited. Electrocardiogram on 1/31/46 showed myocardial damage and conduction changes. Jaundice was more apparent and the liver had increased in size. The picture at this time was characteristic of a toxic nephrosis and hepatitis with renal shutdown and congestive heart failure. Rapid digitalization was employed and because of acidosis Ringer's lactate by infusion was given, 1,000 cc. daily for four days. Vitamin K in daily doses of 20 mg. hypodermically was started. To combat anuria 50 cc. of 50 per cent glucose was given every three to four hours for a total of ten injections and diathermy applied to both kidney regions for one-half hour twice daily. The patient's condition was critical between the seventh and thirteenth day. Because of persistent pleural pain in the left precordial and axillary regions the pleura was infiltrated with 2 per cent novacaine on the thirteenth day. This procedure was repeated for three successive days with sympto-

matic relief. Physical signs of fluid in the right pleural cavity prompted a thoracentesis which yielded 60 cc. of sterile, straw-colored fluid. Roentgen study of the chest at this time showed a greatly enlarged heart with congestive changes in both lung fields (x-ray 1/30/46). On the fourteenth day there were signs of improvement in both renal and hepatic function. The urinary output increased; the nitrogen retention and icterus index decreased. However, signs of heart damage now were more apparent with the presence of a gallop rhythm and a localized mitral systolic murmur. Parenteral fluids were discontinued on the seventeenth day, at which time aminophylline in daily doses of 9 grains was employed to stimulate renal function. A fine punctate, maculopapular rash appeared over the back and buttocks at this time, but disappeared after four days. Voluntary defecation occurred after obstipation of twelve days' duration. The patient now complained of severe generalized muscular pain and stiffness in his joints, for which massage and hot compresses afforded much relief. Sodium salicylate, soda bicarbonate and ascorbic acid were employed in large doses.

From the seventeenth hospital day improvement was rapid. Dyspnea and peripheral edema quickly disappeared. On the twenty-fourth hospital day the heart was clinically normal, and the nonprotein nitrogen was reduced to 48 milligrams. A persistent pleural friction rub at the base of the right lung lasted until the twenty-seventh hospital day. An intravenous phenolsulfonphthalein test showed 45 per cent excretion of dye in two hours. A recheck electrocardiogram (2/12/46) showed absence of P waves with evidence of conduction interference. Lead 2 of the electrocardiogram was repeated six days later with carotid sinus pressure and showed some improvement in these abnormalities



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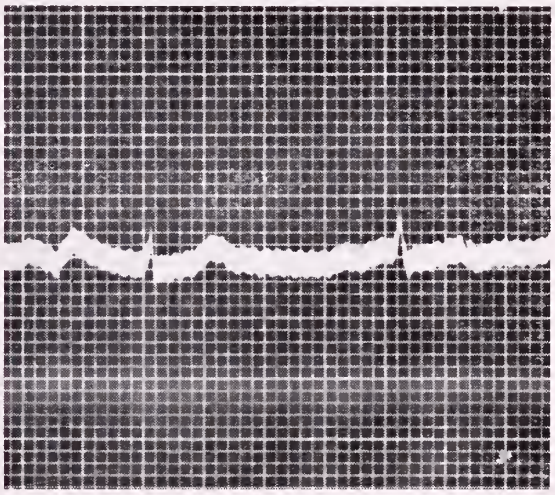

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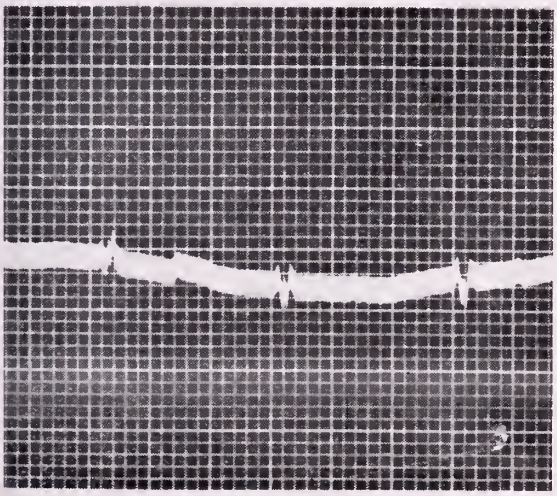

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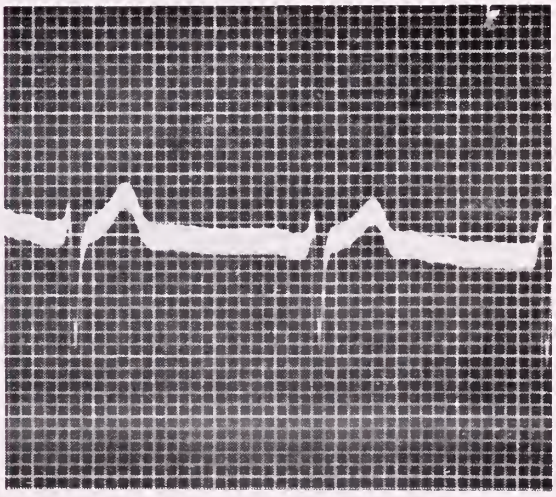
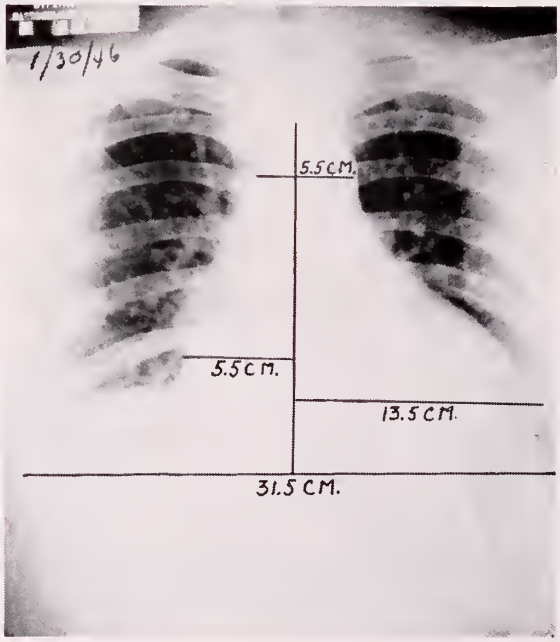


IV

Electracardiogram 1/31/46. P-R interval 0.33 sec., which indicates a high degree of A-V block. Low voltage of T in lead I and II is suggestive of myacardial damage.

(graph 2/18/46). Roentgen study of the chest at this time showed the heart to be normal in outline and the lungs clear (x-ray 2/16/46). On the thirty-first day an intravenous phenolsulfonphthalein test showed 65 per cent excretion of the dye in two hours. Urea clearance test showed 77 milligrams urea cleared in one hour; nonprotein nitrogen was 27 milligrams. Bromsulfalein and hippuric acid tests were not done. The sedimentation rate remained elevated, 34 millimeters (Wintrobe). Except for the first hospital day the patient was afebrile throughout his illness. There was a weight loss of twenty-six pounds. Other treatment, which was symptomatic, consisted of glucose by vein and subcu-



X-ray 1/30/46

taneously, large doses of calcium by mouth and parenterally, amino acids, vitamins and elixir choline chloride. He was discharged cured on the thirty-second day.

SYMPTOMATOLOGY AND LABORATORY FINDINGS

The symptoms and laboratory findings of carbon tetrachloride poisoning are very characteristic. Gastrointestinal and neuromuscular symptoms appear first. There is nausea and vomiting followed by diarrhea; hematemesis and bloody stools may occur. Headache, muscular twitchings, abdominal pain, fever, weakness and prostration ensue. Liver damage is apparent within twenty-four hours and is manifested by an enlarged, tender liver, jaundice and hemorrhagic diatheses. Early in the course of the illness there is polyuria and bile in the urine, followed by urinary suppression, acidosis and nitrogen retention. The urine contains gross blood, white blood cells and casts. Blood studies reveal early hemoconcentration, marked leukocytosis and elevated sedimentation rate. Improvement in liver function is apparent within ten days, at which time the renal pathology dominates the picture. Anuria, azotemia, hypertension and edema appear. Acute pulmonary edema may occur, but prolonged congestive failure is more common. Orthopnea, venous distention, hydothorax, ascites, toxic myocarditis with gallop rhythm and A. V. block occurred in this case. Death may result from (1) paralysis of the medullary centers (within 8-10 hours after poisoning), (2) uremia, (3) acute pulmonary edema, (4) liver degeneration and cholemia, or (5) lobular pneumonia. Smetana[4] reports thirty-nine deaths from poisoning, twenty-one from the ingestion of carbon tetrachloride and eighteen from inhalation of the fumes. McNally[5] reported twelve deaths in sixty cases and Perry[6] two deaths in eighty-eight inhalation cases among soldiers.

When recovery takes place, restoration of renal and hepatic function to normal is rapid and complete and complications are rare. Gocher[7] enumerates as significant complications peptic ulcer, optic nerve blindness and recurrence of nephritis.

TOXICOLOGY

The lethal dose of carbon tetrachloride in man is extremely variable. The maximum therapeutic dose is 4 cc., but fatalities have occurred after ingestion of 1.5 cc. Beattie and others[8] reported a case with recovery after ingestion of 30 to 40 cc. of the chemical.

Acute poisoning may follow a single exposure, with symptoms of central nervous system involvement, headache, dizziness, convulsions, loss of memory and loss of consciousness. The action of the drug is similar to that of chloroform, affecting first the higher centers, then the spinal cord and lastly the medulla.

Consumption of alcohol increases the toxicity of carbon tetrachloride. Lamson[3] proved that alcohol increases the rate and degree of absorption of the poison from the intestinal tract. Large doses of carbon tetrachloride alone were given to dogs without the occurrence of toxic symptoms, but when given in conjunction with alcohol many of the animals died. Even when inhaled, the toxicity of the drug is increased by alcohol, but in such a case the mechanism of its action is unknown. Konwaler and Noyes[9] reported

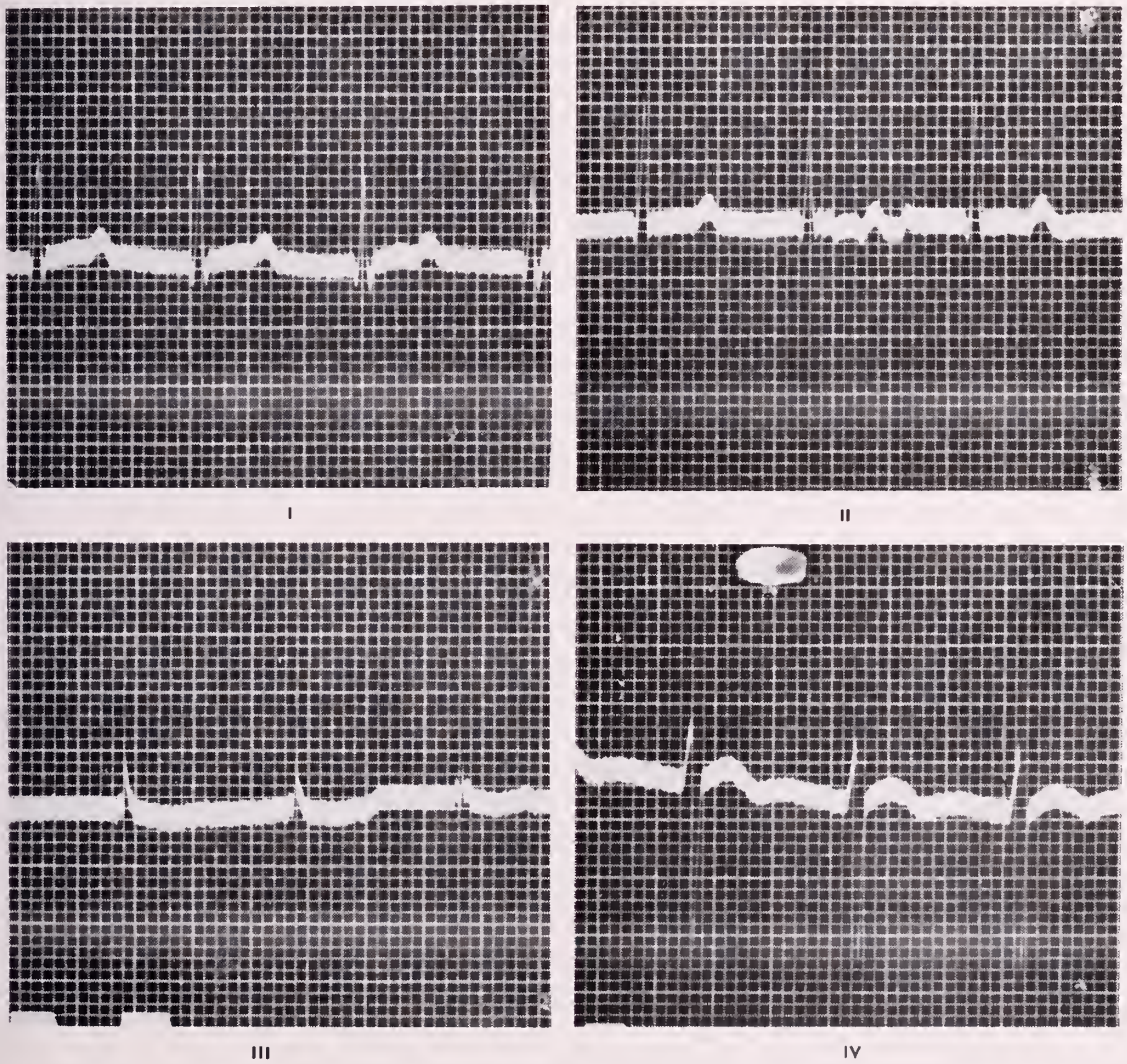
three cases of poisoning by inhalation in workmen who previously had been drinking heavily, of which the outcome was fatal in one. Three other workmen, who had not been drinking, also were exposed to the fumes and failed to develop symptoms.

The administration of fat with carbon tetrachloride also increases its toxicity.[3] This may be expected, as the chemical is extremely soluble in fatty substances, causing greater lymphatic absorption.

According to Goodman and Gilman[2] the intravenous injection of guanidine produces many of the symptoms of carbon tetrachloride poisoning and the accumulation of this substance in the blood as a result of faulty protein metabolism by the damaged liver partly explains the toxic syndrome.

PATHOLOGY

The most striking pathologic changes are observed in the kidneys and liver. Smetana[4], and Corcoran and others[10] discussed in detail the pathologic and physiologic changes occurring in acute toxic nephrosis due to carbon tetrachloride poisoning. The latter point out that injury primarily is epithelial, in contrast to the vascular injury seen in acute glomerulonephritis. The changes are similar to those seen in mercury bichloride poisoning with swelling and necrosis of the tubular epithelial cells. These authors state that the normal basic architecture of the kidneys is well preserved and restoration to normal is possible if the initial injury is not too great. Anatomic changes in the glomeruli are not seen, but albuminous casts within the glomerular spaces may be considered evidence of functional

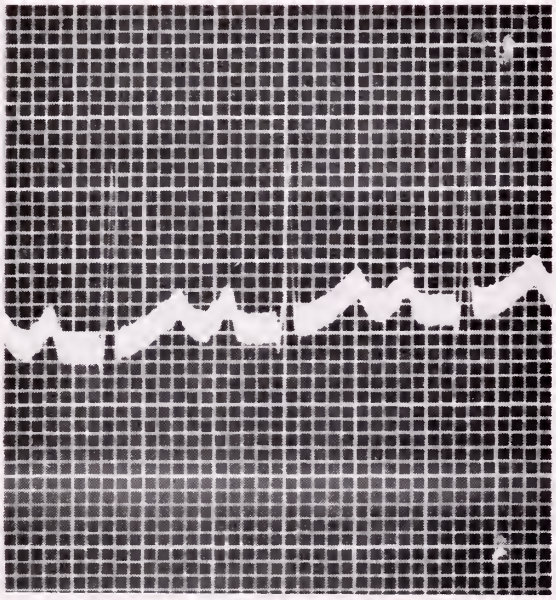


Electrocardiogram 2/12/46. P waves not readily identified. May occur coincident with T wave. Either high degree of A-V block or Nodal rhythm.

damage. The liver shows marked central necrosis, distention of the sinusoids, hemorrhage and fatty degeneration. Petechial hemorrhage and ecchymosis may be seen in any of the viscera. Pulmonary edema, cardiac dilatation and hypertrophy complete the pathologic picture.

COMMENT

All of the clinical features of carbon tetrachloride poisoning were manifested in the case herein reported which typifies the hepatorenal syndrome. The ingestion of alcohol and fat (milk and eggs) unquestionably increased the toxicity of the poison. Clinical evidence of liver damage, hepatomegaly, jaundice and abnormal liver function were apparent within thirty-six hours after poisoning. Signs of renal dysfunction, azotemia, anuria, hypertension and edema ensued after several days and quickly eclipsed the hepatic picture. Treatment was supportive and directed toward protection of the liver and cardiovascular system and combating anuria and acidosis. Restoration of hepatorenal function to normal was



Electracardiagram 2/18/46. Carotid sinus pressure. Gradual return of abnormalities toward normal.

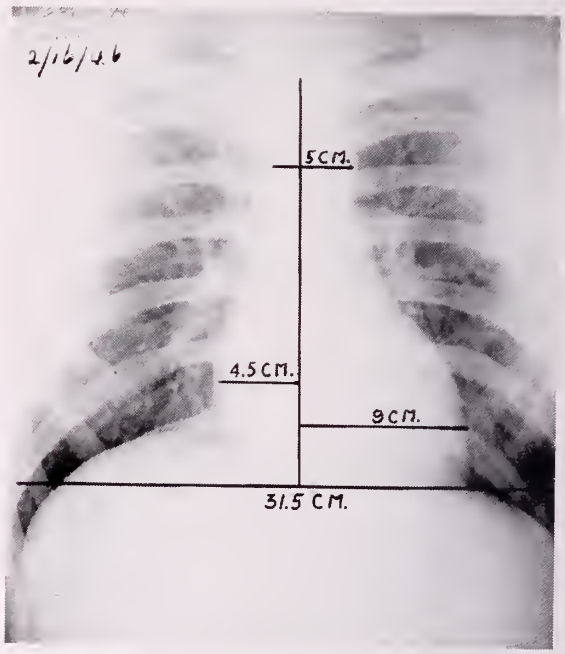
rapid, with the disappearance of abnormal signs and symptoms and the restoration of normal results in laboratory studies.

CONCLUSIONS

1. Carbon tetrachloride is an extremely toxic drug when inhaled or ingested.

2. Symptoms of poisoning result from hepatic or renal injury, or both, and follow a characteristic pattern. The renal syndrome occurs more frequently after inhalation of the fumes whereas ingestion of the poison in toxic amounts invariably is followed by the hepatic or hepatorenal syndrome.

3. Alcohol and fat increase the toxicity of carbon tetrachloride whether it is inhaled or ingested.



X-ray 2/16/46/

4. The pathology is that of an acute hepatitis and toxic nephrosis, and complete restoration of normal hepatic and renal function is possible if the initial injury is not too great.

5. The treatment is symptomatic.

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TUBERCULOSIS ABSTRACTS*

APICAL LOCALIZATION OF PHTHISIS

No discussion of human tuberculosis and its management is complete or convincing unless it takes into account the fact that, in its inception and throughout much of its course, phthisis in adults is confined to the upper third of the lungs. Most members of white and many members of yellow racial groups are almost immune to tuberculosis except in this region. It is a remarkable fact that, even after the sputum and gastric washings contain bacilli consistently, pulmonary lesions for years may be limited to the upper third of the lungs.

Explanations of this curious predilection for the apex have been unsatisfactory. Those who have most consistently urged bed-rest for the treatment of phthisis seem unconcerned with the apical localization and its significance in the pathology and therapy of tuberculosis.

The relation of man's erect posture to the physiological functioning of the lung is usually ignored. Recently published data on blood pressures in the right ventricles of human hearts show that when a tall, long-chested individual is standing or sitting the pressure of the column of blood from the right ventricle to the apex of lungs is equal to or greater than the mean arterial pressure in the pulmonary arteries. Thus the flow of arterial blood will be greatly restricted or even absent at the apices of the lungs of most adults while they are in the erect posture. Nor at such times is tissue fluid or lymph produced by filtration in this area since it requires nearly 15mm. Hg pressure to overcome the difference in osmotic pressure between the plasma and the pulmonary tissue fluid.

As a result of the decreased flow of blood addition of carbon dioxide to and removal of oxygen from alveoli in the apical region will be minimal. Tubercle bacilli reaching this tissue will be in an optimal atmosphere to support their metabolism although this is probably not an important factor in apical localization.

As long as the subject is sitting or standing, the pulmonary arteries can bring few antibodies to the apical region and removal of bacterial products by lymph, or dilution by diffusion into the blood will be almost nil. Only when the patient is recumbent will these tissues be protected against accumulation of toxic substances. Removal of bacteria to the lymph nodes will be suspended during most of the walking hours, as will the replacement of antibodies and of monocytes from the blood.

In view of these facts, it is not remarkable that active tuberculosis so regularly begins in this region, or that it shows a predilection for the tall, long-chested individual and the lively young people who get a minimum of sleep. Lack of rest is important in that it gives the bacilli the maximal number of hours of optimal growth conditions and the tissues the minimal number of hours when the neutralization and dilution of toxic products, and the supply of antibodies and blood-borne phagocytes are as adequate at the apices as elsewhere in the lungs.

The great frequency of silicotic lesions at the apex also may be due to the fact that dust particles reaching this region will be removed by phagocytes less rapidly, and the injurious substances will be diluted and removed more slowly than in other parts of the lung.

This explanation of apical susceptibility is borne out by the statistics on the relationship of pulmonary tuberculosis and heart disease. Where the pulmonary circulation is depleted, as in cases of pulmonic stenosis, the incidence of active tuberculosis is high. Where there is pronounced mitral stenosis and the pulmonary circulation is engorged, cases of pulmonary tuberculosis are a rarity. This is not a matter of academic interest only. If the explanation given above is correct, obviously the ideal treatment of the early apical lesion is complete recumbency for most of the 24 hours. Clinicians who insist on "complete bed-rest" should realize that propping the patient up in bed for more than half an hour at a time interferes with the correct postural management.

So long as bed-rest remains an empirical and nonspecific form of therapy, it will be difficult to enforce it on intelligent people who feel well. An understandable, physiological explanation will make their cooperation more certain. To every adult with an apical lesion the hazards of the erect posture and the value of recumbency should be stressed. However, complete bed-rest, with its attendant discomfort and higher cost of nursing care, may not be superior to many hours of recumbency with brief periods out of bed.

Prolonged bed-rest will be better borne if numerous and gradually lengthening periods of sitting up or strolling about can be alternated with recumbency. A consideration of the pathogenesis of the apical and subapical lesions suggests that this may be sound practice in patients not prostrated by disease.

Apical Localization of Phthisis, William Dock, M. D., American Review of Tuberculosis, April, 1946.

RHEUMATIC FEVER

The term rheumatic fever has certain advantages over the term acute rheumatism in that while there is always fever in the sense of inflammation, notably carditis, the illness itself is by no means always acute. It is often a rheumatic state lasting for months, even years, and characterised by cycles of activity or relapses. In this respect an analogy has been claimed to tuberculosis. It is carditis alone that makes rheumatic fever the serious disease it is. The use of the word "subacute" may mislead in this important respect. Further, it seems inadvisable to employ the term rheumatism because of its popular association with the chronic rheumatism of adults, which is insignificant as a source of heart disease. Heart fever would be an excellent synonym of rheumatic fever, for carditis is now regarded as its almost invariable component, with polyarthritis as a frequent but by no means essential manifestation.

Notification of acute rheumatism (rheumatic fever) has not hitherto been used in this country on a scale sufficiently large to give useful figures regarding incidence. It is known, however, that in 1938 about 2.6% of the school population of London either were suffering from or had suffered from acute rheumatism, including chorea. The available evidence suggests that in Great Britain at the present time there are 300,000 persons whose lives are affected already or will be affected by rheumatic fever. It is certainly the dominating cause of heart disease under the age of 40.—From Interim Report of Rheumatic Fever Committee to The Royal College of Surgeons, quoted in The Lancet.

*Issued monthly by the National Tuberculosis Association and furnished through the courtesy of The West Virginia Tuberculosis and Health Association.

The President's Page

The Krug-Lewis agreement of May 29, 1946, provided, among other things, for "a comprehensive survey and study of hospital and medical facilities, medical treatment, sanitation, and housing conditions in coal mining areas". Rear Admiral Joel T. Boone (MC), USN, was selected to organize and direct the survey. The survey has been completed and the report was made public some time ago.

The foreword to the survey states "provisions for health range from excellent, on a par with America's most progressive communities, to very poor . . ." This comes as no surprise to those of us who have had close contact for years with the practice of medicine in the coal fields. However, it is evident that improvements can be made and the recommendations in the survey should stand as a challenge to management, labor, the medical profession, and the individual miner, to improve the general picture. Some of the recommendations for improvment in sub-standard conditions are more ideal than practical, but others would lead to measurable improvement in the health and welfare of the mining population.

Of 2,028 houses occupied by miners and their families, 57 per cent were company owned, the remainder being rented otherwise or owned by the miners themselves. In all instances houses ranged from excellent to very poor, but when judged by all criteria relating to site and structure, twice as many of the non-company houses were found to be adequate. Only 17.6 per cent of the houses inspected contained bath rooms, and 75 per cent were found to use privies. Water purification, planned sewage disposal, and garbage collection and disposal were woefully lacking. Without condoning in the least these sub-standard living conditions, they are not unique among the mining population, and it is said that in the nation's capital approximately 100,000 people still draw their drinking water from yard hydrants and rely upon privies.

Public health services were inadequate in practically all areas surveyed. The remedy suggested was a combined demand on the part of miners and operators for their share of public health services available. The coal mine physician should utilize more fully public health facilities and promote public health programs.

Preventive medicine in the bituminous coal fields has lagged behind other industries and real industrial medicine is rarely practiced. More preventive medicine is obviously called for, and more first aid facilities and the development of a long range program of industrial hygiene by labor and management are suggested.

The survey showed that local medical care was available on a prepayment plan to 70 per cent of the mining population. Where available, participation was 95 per cent. The plan was considered excellent at some of the larger operations, but facilities were considered adequate to poor at the majority of the mines. Shortcomings of the system were the exclusion of obstetric cases and venereal diseases and the failure to provide a free choice of doctor.

Medical care in the hospital on a prepayment plan was found to be available in essentially the same proportion as medical care in the home. Because of prepayment medicine, the establishment of hospitals in or adjacent to mining communities has been possible. Raising the standard of medical care in many areas is admitted. The system is criticized on account of a limitation of services in some cases, the lack of a free choice of hospital and only a limited choice of physician, and the elimination of competition. Some of these criticisms would be eliminated if plans were consolidated and modeled somewhat after Blue Cross and Blue Shield services. Under the present system services vary from excellent in urban areas to poor in the more rural areas. It is suggested that small hospitals might affiliate with larger institutions or limit themselves to special phases of care.

The so called off-the-job living of the miner is much to be desired. It is suggested that management and labor cooperate in establishing an adequate program of recreation for the miner and his family and children.

A careful study of the survey by interested members of the medical profession and a willingness to cooperate in carrying out the more practical suggestions would go far towards eliminating criticisms which have been leveled against the medical profession in the care of the miner and his family.

W. H. H. Clark

President.

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THE A. M. A. CENTENNIAL

The one hundredth annual session of the American Medical Association just held in Atlantic City, was probably in many ways the most unique and most important meeting of physicians ever held. Certainly it was the largest in point of numbers, more than 15,000 holders of the M. D. degree being registered. The exhibits, both scientific and commercial, overshadowed by far any preceding exhibit we have ever seen. The spirit of medical progress and medical camaraderie prevailed to a greater degree than we have ever seen it in a former meeting. Many more distinguished foreign guests, representing both governments and medical societies, were present than at any meeting in the past.

One of the most impressive features of the celebration was presented on Sunday morning when a Protestant minister, a Jewish rabbi, and a Catholic priest, all outstanding, discussed the ministry of healing.

Probably the most colorful aspect of the meeting was the placing on sale of the memorial stamp, which is a beautiful reduced reproduction of Sir Luke Fildes' "The Doctor."

Another feature was President Truman's telegram, couched in beautiful language, extending congratulations and expressing appreciation of the service rendered to the American people in peace and war by members of the medical profession.

The historical keynote of the meeting was "100 Years of Progress in American Medicine," and the entire session exemplified this idea. May our second century, now dawning so brightly, be as productive of progress in the healing art and in the increase of longevity and human health and happiness as the one just closed!

GOOD HOUSEKEEPING'S TRIBUTE

The following tribute to the American Medical Association is printed in the June issue of Good Housekeeping:

In Atlantic City in June the American Medical Association will observe its Centenary, and so it is appropriate that we extend to the Association our sincerest congratulations and good wishes. It is doubtful whether any other organization has had as much of an influence for good on American life.

Organized medicine in this country is powerful, as it deserves to be, and must be. But for the highly centralized headquarters in Chicago we would not now be so free of quacks, and of bad medical legislation, and of medical plans and schemes that take advantage of a gullible public.

Immeasurable good has come from the American Medical Association. Largely because of it the status of medicine in America is unexcelled; the stature of the profession is the highest ever known. We salute the Association; and in honoring it, we honor a group of indispensable citizens.

EMIC IN WEST VIRGINIA

On June 30, the EMIC program will be discontinued. During its continuance, the sum of $1,159,000 has been expended for deliveries in West Virginia and an additional $110,000 for child care services. During this time the number of hospital deliveries in this state increased 69%. At the beginning of the program, our infant death rate per 1,000 live births was 52.4 and at the close 40.5, an all-time low in West Virginia.

These figures speak eloquently for hospital delivery and for prenatal and postnatal care. Certainly with such an educational experience as a stimulus, some method should be devised to continue hospital deliveries at the present high level, and to assure adequate maternal and child care as well.

The program in West Virginia has been conducted in a manner that has brought well-deserved praise to the state health department and its division of maternal and child health.

RICE WITHOUT GRAVY

Dr. Julian P. Price, secretary of the South Carolina Medical Association and editor of its Journal, is the author of the guest editorial in the April issue of the Medical Annals of the District of Columbia.

We quite agree with the note appended to the editorial by the editor. He says, "As readers of this article will discover, Dr. Price has a sense of humor and a discerning mind. He is also one of the ablest and best liked of all state medical editors and secretaries. Editors and program committees can always count on original, worthwhile contributions from him. Impatient with 'conservatives', he is forward-looking and progressive with a practical turn of mind."

Doctor Price writes on the subject of "Rice Without Gravy." "One of the basic foods in many Southern homes is rice," he says, "and it is considered along with biscuits, the *sine qua non* of a good dinner. Each cook is proud of being able to prepare it so that every kernel stands by itself, and considers her efforts as vain if the food presents a soggy, wet appearance."

However, Doctor Price voices the sentiments of thousands of our own people here in West Virginia, when he states that, regardless of how well the rice has been prepared, no hostess would consider serving it without gravy. "Rice may be the basic food," he says, "the substance which satisfies the hunger and fills the inner void, but it is the gravy which tickles the taste buds and renders the dish savory and appetizing."

Applying the plan to the delivery of addresses by doctors before professional audiences, Doctor Price says, "I have often wondered whether the writer or speaker might not be making the mistake which the Southern lady refuses to make, that of serving rice without gravy."

"The average physician, as I have seen him, is a good conversationalist. Watch him as he sits with a group of his colleagues. He knows humorous stories and he tells them well. Quick at repartee, he exchanges sallies with this person and that. During a general discussion, his facial movements, his spontaneous gestures, his unusual method of expressing himself, his use of certain words and phrases which are peculiarly his own, blend to give sparkle and individuality to the ideas which he presents and the arguments which he advances.

"Now drop the curtain and let it rise upon another scene—the average physician as he prepares a paper or address for public presentation. Brushing aside those very things which make him a good conversationalist, he draws within the shell of austere traditionalism and fills his manuscript with time-worn expressions, trite phrases, hackneyed similes, soporific sentences, and ponderous pronouncements. Beset by the belief that all medical writing must follow a set pattern which has come down through the years, he resists all temptations to allow his own individuality the opportunity to express itself. And the result—a work which could be accredited to a hundred authors without a reader or listener being the wiser, a presentation which migh appease the hunger of the few but which will fail to titillate the appetites of the many to whom the message is given.

"Perhaps it would not be amiss for those of us who are average physicians and who are afforded the opportunity to write and to speak, to observe well the Southern lady as she prepares her dinner for her guests. She spares no pains to see that her rice is well cooked, but she also prepares her gravy with equal care. Under no circumstances would she insult her guests by serving rice without gravy."

THE FEAR OF DEATH

Nicodemus went to Christ in the night in search of everlasting life. Ponce de Leon roamed the New World, seeking the fountain of perpetual youth. Steinach severed the vas deferens in an effort to rejuvenate old men and stimulated interest in gland transplants and gland fathers. Life has always been held in precious esteem but when we say that we want to live a long time, do we not have in mind its perfections and forget to count life's disappointments?

Owen Meredith gave us in poetic verse "The Apple of Life." The theme was that whoever ate the apple would be assured of living forever. The author described how several persons in different stations in life reacted to this proposal. The apple was first offered to King Solomon. After careful consideration of the consequences he rejected it but passed it on as a favor to his fair Shulamite. She reached the same decision herself and gave it to her prince. The prince, after due deliberation, did not want it and tendered it to his Egyptian sweetheart, who in turn carried it to King Solomon. Thus, the wisest of all men renounced it twice. Each person, after debating the advantages and disadvantages of the mysterious charm, voted against the responsibility of changing nature's course.

William Cullen Bryant in "Thanatopsis," and Robert Louis Stevenson in "Requiem" show a beautiful resignation toward death. As physicians, we see men who die with a smile—they are said to be brave. We see those who after lingering illnesses welcome the end, while many are wrapped in the kindly mantle of insensibility that deprives them of feeling and fear.

Fear of death is a motivating factor in the calling of the doctor who sometimes prolongs life, sometimes dispels fear, but always comforts the patient and relieves the pain that may be incidental to the ravaging processes of dissolution. He does all this knowing full well that no one can live forever. Let us be reconciled to believe that it should be as it is. After all, it is not a question of how long we live but how well. It is the function of geriatrics to aid in the prolonging of good lives.—A. E. H. in Geriatrics.

DISAPPEARING DENTISTS

In a world of increasing dental consciousness, an unfortunate fact has come to light recently. In 1940 there were relatively fewer dentists than in 1930. There were 25 per cent fewer dental graduates between 1930 and 1940 than in the preceding ten year period, and although the war years produced a record number of new dentists, the freshman dental school enrollment in 1945 was the lowest since 1920. During the 1930-1940 decade the proportion of dentists under 35 years of age decreased from more than one-third to less than one-fourth of the total number.—Hygeia.

General News

FIRST OF NEW STATE HEALTH CENTERS FORMALLY DEDICATED AT LEWISBURG

The new health center at Lewisburg was dedicated June 9, with Governor Clarence W. Meadows delivering the dedicatory address. The headquarters for Health District No. 2 are located in the health center, which for years has been known as the "John A. Preston Community House."

Addresses were also delivered by Mrs. John A. Preston, president of the Woman's Club of Lewisburg, and Mr. C. K. Dwinell, general manager of the Greenbrier Hotel at White Sulphur Springs.

Mr. Dwinell presented the health center with valuable laboratory equipment, which was accepted for future use. Just as soon as additional suitable equipment and personnel are available, the state health department will establish in the center West Virginia's first branch laboratory to the state hygienic laboratory. Thus, immediate laboratory service will be available to doctors in the Greenbrier-Pocahontas-Monroe area. Several statewide surveys have been made to determine the laboratory facilities being offered to local practicing physicians, and recommendations have been made that at least three branch laboratories be established in strategic places. However, due to lack of funds and proper personnel, it will be impossible to establish additional laboratories until probably sometime in 1948.

It is planned to develop in District No. 2 a strong public health program as a firm basis for a proposed postgraduate training center. Dr. Andrew E. Amick, of Lewisburg, is in charge of the district and was largely instrumental in enlisting the interest and aid of the people of the Greenbrier community in the establishment of this center. It was through his efforts that the Woman's Club, under Mrs. John A. Preston, offered the use of the community house at Lewisburg.

The overall program planned for the future will include venereal disease, prenatal, well-child, tuberculosis, and cancer clinics, together with other programs sponsored by the state health department. Of especial interest to the doctors in that area will be the branch laboratory which will operate under the direct supervision of the state hygienic laboratory.

According to Dr. Hallie Isabel Morgan, director of the division of maternal and child health of the state health department, the district has been chosen as a special project by her division because of the fact that Doctor Amick, a prominent practicing pediatrician, is in charge of the health program in the Greenbrier area. "The plan for the development of this public health district," she says, "is long range in character. We hope eventually to make of this health unit a postgraduate training center in pediatrics for any doctors in the state who wish to avail themselves of the knowledge of modern diagnostic methods in pediatrics."

Other state officials attending the dedication of the center included Dr. N. H. Dyer, state health commissioner; Dr. Alex Witkow, director of the bureau of county health work; Dr. Katherine Cox, director of the state hygienic laboratory; Dr. Paul R. Gerhardt, director of the hospital survey and planning construction program; Dr. Hallie Isabel Morgan; Dr. Robert Gibson, of the division of communicable diseases; Mrs. Laurene C. Fisher, director of the bureau of public health nursing; Dr. A. P. Sackett, director of the bureau of venereal disease control, and Mr. E. J. Hall, the bureau's health education consultant.

STUDENT NURSE RECRUITMENT PROGRAM

Distribution of 70,000 car cards and 45,000 posters, and the use of 2,000 billboards, calling attention to the opportunities offered by professional nursing will climax the nation-wide Student Nurse Recruitment Program being conducted by the American Hospital Association, the Advertising Council, Inc., the American Red Cross and national nursing organizations. This material will be displayed throughout the country during July.

In addition, national network time will be devoted to messages on nursing, urging young women to seek further information at their local hospitals and schools of nursing. National programs will carry these messages during the week of July 28.

Goal of the program is the enrollment of 45,000 student nurses in the country's 1,300 schools of nursing during 1947.

INTERNATIONAL COLLEGE OF SURGEONS

The 12th assembly and convocation of the United States Chapter of the International College of Surgeons will be held in Chicago, September 28-October 4, 1947. Besides an impressive scientific program, operative clinics and round-table discussions have been arranged. A copy of the program may be obtained by writing Louis J. Gariepy, M. D., F. I. C. S., Secretary, 16401 Grandview Avenue, Detroit 27, Michigan.

NEW DEAN AT MCV

Dr. Harvey B. Haag has accepted appointment as dean of the Medical College of Virginia School of Medicine, succeeding Dr. J. P. Gray, who resigned late in 1946 to accept appointment as dean of the School of Medicine at the University of Oklahoma. Doctor Haag, who is professor of pharmacology at the Medical College of Virginia, will assume his new duties July 1, but will also continue as professor of pharmacology at MCV.

DR. A. A. WILSON CERTIFIED

Dr. Archer A. Wilson, of Charleston, has been certified by the American Board of Neurological Surgery as the result of the examination held early in June in Chicago.

SURVEY SHOWS DEFICIT OF MORE THAN 8,000 HOSPITAL BEDS IN STATE

Many interesting facts and statistics are being uncovered in connection with the hospital and health facilities survey which is now being completed by the West Virginia Department of Health.

According to Dr. N. H. Dyer, state health commissioner, 8,740 hospital beds will be necessary if West Virginia is to reach the maximum permitted under the Hill-Burton Hospital act. This figure was arrived at during the survey of the general and tuberculosis hospitals and the health facilities of the state. Each state must complete such a survey before it is eligible to receive federal funds for new construction. This extensive task is being undertaken with the full cooperation of the hospital administrators in West Virginia.

Briefly, the results of the survey which is being made under the direction of Dr. Paul R. Gerhardt are as follows:

General hospitals: Ratio per 1000 population, 4.5 beds; West Virginia's maximum, 7,796. At the present time West Virginia has 6,299 general hospital beds, of which number 1,628 or 26% should be replaced because of fire hazard. The deficit for general hospital beds is 3,125.

Mental hospitals: Ratio per 1000 population, 5 beds. West Virginia's maximum 8,662. Deficit in mental beds, 4,942.

Tuberculosis sanataria: Ratio, 2.5 times the annual deaths from tuberculosis in West Virginia for the five-year period, 1940-1944. The average from tuberculosis during this five-year period is 806.2. West Virginia's maximum beds, 2,015. Deficit, 695.

Chronic disease: Ratio per 1000 population, 2 beds. The survey shows that there are no separate chronic disease hospitals. Medical and hospital authorities are agreed that beds for the chronically ill should be planned as part of the larger general hospitals in the state.

It is pointed out by Doctor Dyer that under the Hill-Burton act, the federal government will provide one dollar for hospital construction for every two dollars advanced by every non-profit hospital or by the state for its institutions. Distribution of the federal funds, the total of which is still under consideration by a joint Senate-House committee, will be through the state department of health. It is required that the state agency develop its construction program in relation to the proportionate need for each of the five categories of facilities, general, mental, tubercular, chronic, and health facilities.

Recently the advisory council appointed by Governor Meadows in connection with the hospital survey, planning and construction program met and approved the plan of administration which involves priorities, standards of operation and other provisions for distribution of available funds. The need for hospital facilities will determine the priority in any location rather than the funds which might be available from a non-profit hospital or a state institution.

The state has been divided into thirteen intermediate and twenty-eight rural areas. The division has been made on the basis of trading areas, as well as natural areas, such as mountains and rivers. Interstate flow of patients in areas such as Wheeling, Parkersburg and Bluefield was taken into consideration in laying out the hospital areas and regions. Tentatively, the state has been divided into twelve hospital regions as follows: Morgantown, Clarksburg, Wheeling, Fairmont, Philippi, Martinsburg, Elkins, Parkersburg, Huntington, Bluefield, Beckley, and Charleston. Each hospital region consists of at least one intermediate hospital area and several rural areas.

The details of the state plan will be publicized in the near future and interested individuals and organizations will be given an opportunity to offer suggestions or criticisms to the state department of health.

Should Congress appropriate money according to the plan set forth under the Hill-Burton act, $75,000,000 a year for a five-year period will be made available. Of this amount, according to Doctor Dyer, West Virginia will receive approximately $1,500,000 per annum, which will have to be matched by twice that annual amount by non-profit hospitals or state institutions. Private construction of hospitals will not be interfered with under the provisions of the act.

EMERGENCY MATERNAL, INFANT CARE PROGRAM TO BE DISCONTINUED JULY 1

The Emergency Maternal and Infant Care program, which has been in operation over the country for the past four years, will be discontinued as of July 1st, 1947. The program was established under an act of Congress for the duration of the war and six months thereafter.

According to Dr. N. H. Dyer, state health commissioner, pregnancies occurring before June 30, 1947, will be eligible for care provided the husband is actively engaged in the armed forces in the four lower pay grades, and the child will be entitled to pediatric care for one year after birth. In the event the mother does not apply for this service in the first months of pregnancy, if she can prove that the pregnancy occurred prior to June 30, 1947, care for herself, and the care of her child for one year, will be authorized after this date.

From the inauguration of the program through December 31, 1946, 14,874 authorizations for care of mothers in West Virginia were completed under the program at a total cost of $1,159,025.02, the attendants at birth receiving $638,449.65, and the hospitals $520,575.37.

For the same period, care was furnished for 2,198 infants throughout the first year of life at a cost of $110,973.91, the physicians receiving $38,016.01 and the hospitals $72,957.90.

During the four years that the state department of health has been operating the program, deliveries in hospitals have increased 69 per cent and infant deaths in West Virginia have decreased from 52.4 per 1,000 live births in 1943, to 40.5 in 1946, the lowest ever recorded in West Virginia.

WEST VIRGINIA DOCTORS PARTICIPATE IN A. M. A. MEETING AT ATLANTIC CITY

The Centennial Meeting of the American Medical Association at Atlantic City, June 9-13, was by far the most successful in its history. The total registration to Friday morning, June 13, was 15,366, with nearly 200 doctors and representatives of foreign countries present. It was expected that the total registration including the last day would exceed 16,000.

All of the scientific sessions and meetings of sections, societies, and affiliated associations were crowded, and the immense auditorium where scientific and technical exhibits were set up was jammed for at least the first four days of the meeting. There were over 300 technical and 200 scientific exhibits.

The meeting got off to a good start Sunday morning, June 8, with a joint religious service in the ballroom at the auditorium, the speakers being the Rev. Ralph Cooper Hutchinson, president of Lafayette College, Rabbi Joshua L. Liebman, of New York City, and Monsignor Fulton J. Sheen, professor of philosophy at Catholic University, Washington, D. C.

County Society Officers Meet

The first National Conference of County Medical Society Officers convened at the Hotel Traymore. Dr. Frank J. Holroyd, of Princeton, was chairman for West Virginia and also area chairman for the second district, composed of Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia. He also served as a member of the program committee for the meeting. The conference was attended by nearly 300 county medical society officers from over the country.

Conference of Presidents

The Third Annual Conference of Presidents and Other Officers of Medical Associations was convened on Sunday afternoon, Senator Robert A. Taft, of Ohio, being the principal speaker. Addresses were also delivered by Dr. L. Howard Schriver, of Cincinnati, president-elect of the conference, and Maj. Gen. Paul R. Hawley, chief medical director of the Veterans Administration. Dr. Walter E. Vest, of Huntington, is a member of the executive committee of the conference.

House of Delegates

Several sessions of the House of Delegates were held and a heavy calendar of business transacted. Doctor Vest was named by the speaker as chairman of the reference committee on hygiene and public health. He and Dr. Ivan Fawcett, of Wheeling, represented West Virginia in the House of Delegates.

The resolution concerning the practice of medicine by hospitals in West Virginia, adopted unanimously by the House of Delegates at the annual meeting of the West Virginia State Medical Association at Charleston, May 13, was introduced by Doctor Vest and Doctor Fawcett. The resolution was reported back favorably by a reference committee and unanimously adopted.

In the resolution, the Council on Medical Education and Hospitals is instructed to include in the standards for hospital recognition regulations providing (1) that all fees for medical service be fixed by and collected by or for duly licensed doctors of medicine, and (2) that all policies and practices involving treatment, nursing, and medical service be approved by the medical staff before being put into effect.

1948 Meeting in Chicago

It was announced that the board of trustees of the AMA will arrange a four-day program for the December meetings of the House of Delegates. The sessions of that body will consume two days of this time and the other two days will be devoted to scientific sessions confined to the general practice of medicine. The House of Delegates voted to hold the 1948 annual meeting in Chicago, and Atlantic City was selected for the meeting in 1949, while San Francisco was named for the meeting in 1950.

Dr. Hudgins' Exhibit

Dr. A. P. Hudgins, of Charleston, participated in the scientific exhibit with a display in the section on obstetrics and gynecology, entitled "Modifications in Technic for Perineal Repair." The exhibit showed variations in technic in perineal repair which accomplish (1) ease and precision in anatomic dissection, (2) minimum blood loss, and (3) good exposure and identification of tissue for accurate approximation. It was demonstrated in the exhibit that the technic is applicable when tissues are friable, post-operative healing being satisfactory and time-saving.

New Officers

Dr. Roscoe L. Sensenich, of South Bend, Indiana, whose term as a member of the board of trustees expires this year, was elected president to succeed Dr. Edward L. Bortz, of Philadelphia. Doctor Bortz was inducted as president at the Atlantic City meeting in the place of Dr. Olin West, who was named president elect at the San Francisco meeting in 1946, but who was compelled to resign on account of ill health. Doctor West served for years as secretary and general manager of the American Medical Association.

Dr. Thomas A. McGoldrick, of Brooklyn, was named vice president, and the following officers were reelected: Secretary, Dr. George F. Lull, Chicago; treasurer, Dr. Josiah J. Moore, Chicago; speaker of the House of Delegates, Dr. Roy W. Fouts, Omaha; and vice speaker, Dr. Francis F. Borzell, Philadelphia.

Dr. Dwight H. Murray, of Napa, California, was elected a member of the board of trustees, and Dr. Edward J. McCormick, of Toledo, was elected a member of the board to succeed Doctor Sensenich.

Under a resolution adopted by the House of Delegates, Dr. Roy W. Fouts, the Speaker, named a committee to study the procedures of that body in order to expedite its business. Dr. Walter E. Vest, senior member of the House from West Virginia, was named a member of the committee.

LIBRARY OF THE
COLLEGE OF PHYSICIANS

West Virginia Registration

The official registration for the first four days showed the following West Virginia doctors present or registered in advance of the meeting:

Adams, John Dean, Martinsburg
Anderson, R. L., Charleston
Armbrecht, R. J., Wheeling
Armentrout, A. W., Martinsburg
Ashworth, Robert A., Moundsville

Banks, J. B., Charleston
Bateman, H. G., Williamstown
Beddow, Herbert M., Charleston
Belgrade, Joseph T., Wheeling
Benson, D. S., Moundsville
Biern, O. B., Huntington
Black, William P., Charleston
Blake, Thomas H., St. Albans
Bloss, James R., Huntington
Bobes, S. S., Wheeling

Bobbitt, Ray M., Huntington
Bonar, M. L., Charleston
Bracey, Altamont H., Welch
Brandabur, J. J., Huntington
Brown, D. J., Parkersburg
Brown, Henry M., Belle
Bucher, Samuel J., Harmon
Buff, I. E., Charleston
Burian, Frank J., Williamson
Cannaday, John E., Charleston
Capito, G. B., Charleston
Castrodale, Dante, Welch
Clark, C. T., Iaeger
Cooke, W. L., Charleston
Cope, Paul H., Wheeling

Dameron, J. T., Martinsburg
Daniels, W. F., Huntington
Davis, C. C. Clarksburg
Davis, W. B., Rainelle
Echols, John E., Richwood
Farrell, Marcus E., Clarksburg
Fawcett, Ivan, Wheeling
Fisher, R. W., Morgantown
Freedman, Robert, Martinsburg
Gage, E. Lyle, Bluefield
Gallagher, Mary V., Charleston
Goff, S. W., Parkersburg
Gray, David B., Charleston
Greeneltch, D. E., Wheeling

Hamilton, Richard, St. Marys
Harmon, Paul H., Huntington
Harris, Thomas L., Parkersburg
Hays, Henry C., Williamson
Henderson, Oliver M., Triadelphia
Henson, E. B., Charleston
Hoffman, W. E., Charleston
Hoitash, F. J., Huntington

Holcombe, V. E., Charleston
Holland, Claude L., Fairmont
Holley, C. J., Wheeling
Holroyd, Frank J., Princeton
Horton, E. W., Bluefield
Hosmer, D. J., Bluefield
Hudgins, A. P., Charleston

Jones, A. L., Wheeling
Jones, Arthur S., Huntington
Kammer, Adolph, South Charleston
Kechele, D. V., Bluefield
Kessel, Clark, Beckley
Khorozian, K. G., Pineville
Klug, Thomas M., Wheeling

Koenigsberg, Max, Charleston

Lambert, L. Rush, Fairmont
Lance, V. L., Charleston
Lawson, John C., Williamson
Leech, F. G., Quinwood
Leonard, C. L., Elkins
Lilly, Goff P., Charleston
Long, Frank C., Point Pleasant
Lutz, A. R., Parkersburg

Mamick, Stephen, White Sulphur Springs
Matthews, L. B., Charleston
Matthews, W. E., Huntington
Maxwell, G. R., Morgantown
McClure, U. G., Charleston
McCoy, H. D., Martinsburg
McFetridge, S. Elizabeth, Martinsburg
McNinch, E. R., Hollidays Cove
Meyer, Seymour W., Elkins
Moser, W. C., Morgantown
Murphy, John H., Wheeling

Neal, L. E., Clarksburg
Nelson, George O., Nitro
Ogden, C. R., Clarksburg
Pletcher, R. O., Lost Creek
Polen, F. E., Holliday's Cove
Preiser, Philip, Charleston
Price, Albert M., Madison
Putschar, W. G. J., Charleston

Ratcliff, Gilbert A., Huntington
Rice, William R., Charleston
Roberts, Donald R., Elkins
Root, Robert, Wheeling
Rubin, Herman, Wheeling

Salkin, David, Hopemont
Sammons, W. P., Wheeling
Scott, F. A., Huntington
Shanklin, James R., Bluefield
Shore, E. L., Salem
Slater, C. N., Clarksburg
Small, Maurice, Parsons
Sottona, Philip Curtis, Martinsburg
Stewart, James K., Wheeling
Swart, H. A., Charleston

Talbott, Richard B., Martinsburg
Taylor, I. C., Martinsburg
Thompson, J. L., Weirton
Todd, Gordon L., Princeton
Trach, J. M., Fairmont
Tretheway, S. W., Wheeling

Vest, Walter E.,, Huntington
Weiler, Howard G., Wheeling
Whisler, H. Allen, Clarksburg
Wilson, A. A., Charleston
Wilson, I. O., Highcoal
Wilson, J. E., Clarksburg
Wilson, J. E., Jr., Clarksburg
Wright, E. B., Clarksburg

STATE HEALTH DEPARTMENT BULLETINS

The State Department of Health is furnishing all licensed physicians in West Virginia with information concerning recently enacted federal and state health legislation, together with bulletins containing other pertinent material relating to participation in various public health programs. Doctors who are not receiving these bulletins, or who may have changed their address, are requested to notify Dr. N. H. Dyer, State Health Commissioner, Charleston 5, West Virginia.

A. M. A. AUXILIARY HONORS MRS. McCLURE

Mrs. Ulysses G. McClure, of Charleston, was elected a member of the board of directors of the Woman's Auxiliary to the American Medical Association for a two-year term at the annual meeting held in Atlantic City, June 9-13. She is past president of the Kanawha Auxiliary and past president of the Woman's Auxiliary to the West Virginia State Medical Association, and is also a member of the board of directors of the Woman's Auxiliary to the Southern Medical Association, serving as chairman of research and romance. She is parliamentarian of the State Auxiliary.

Mrs. U. G. McClure

During the meeting at Atlantic City, Mrs. F. Carl Chandler, of Bridgeport, president of the Woman's Auxiliary to the West Virginia Medical Association, was hostess at a breakfast honoring Mrs. McClure, Mrs. Eustace A. Allen, of Atlanta, the national president, and Mrs. Luther H. Kice, of Hempstead, New York, national president elect. Other West Virginia women present included Mrs. A. G. Rutherford, of Huntington, Mrs. C. N. Slater, of Clarksburg, and Mrs. V. E. Holcombe, and Mrs. E. B. Henson, of Charleston.

PHI BETA KAPPA HONORS DR. VEST

Dr. Walter E. Vest, of Huntington, has been elected president of the Virginia Alpha Chapter of Phi Beta Kappa, the parent or original Phi Beta chapter, which was founded at William and Mary College December 5, 1776. He will serve for the ensuing scholastic year.

PHARMACISTS HEAR DR. SHEPPE

Dr. William M. Sheppe, of Wheeling, was a guest speaker at the 40th annual meeting of the West Virginia State Pharmaceutical Association, at Wheeling, June 16. His subject was, "Present Trends in the Control of Medicine and Pharmacy by Government Agencies."

REFERRALS OF NEEDY CANCER PATIENTS AVERAGE 45 PER MONTH

The division of cancer control of the state department of health has accepted a total of 1,375 referrals of needy cancer patients. During the past six months there has been an average of forty-five referrals per month, and it is expected that the average monthly referrals will increase to fifty cases during the last half of the year.

The division of cancer control, with a limited appropriation, has found it impossible to meet the increased cost of hospitalization during the past year. The cancer committee of the State Medical Association, at a meeting held in May, decided that the fee schedule under which the division has been operating will have to be continued.

In order to carry out the provisions of the cancer control law within the limits of available funds, certain policies have been established and will be followed in order to provide for an economical administration of the program.

Financial assistance can be extended only to the needy cancer patients who present a good prognosis. The division cannot authorize prolonged hospitalization to incurable cases, as such procedure would jeopardize the treatment of patients who have a good possibility of cure.

The division cannot assume any financial obligation for treatment or hospitalization of a case until the application has been reviewed and the necessary authorization issued. Services and treatment can be given only at approved treatment centers and tumor clinics.

Another source of referral of needy cases has been established through the West Virginia Cancer Society's cancer information centers. Centers are in operation in Charleston, Clarksburg, Wheeling and Bluefield. In addition to the treatment program, the division of cancer control assists in an educational campaign for lay and professional groups, aids in the establishment of tumor diagnostic and treatment clinics, and provides tissue diagnostic service for needy cancer patients.

With a state appropriation of $50,000, which will probably be supplemented by approximately $30,000 from the federal appropriation for cancer control, the division will endeavor to operate its four-point program on a total appropriation of less than $100,000.

A binder of cancer bulletins, compiled by the committee on cancer of the Illinois State Medical Society and purchased by the division of cancer control in West Virginia, will be distributed to all of the doctors in this state. Several pamphlets pertaining to cancer control are now available for distribution without charge. This literature may be obtained by writing to the Division of Cancer Control, State Department of Health, Charleston.

NEW MEMBERS OF STATE MEDICAL ASSOCIATION ELECTED SINCE FEB. 1

The following is a list, by component societies, of new members of the West Virginia State Medical Association elected since the publication of the 1947 roster:

Barbaur-Randolph-Tucker

**Berkley, J. L. — Elkins
Bucher, Samuel — Harman
**Gregg, L. O., Jr. — Davis
**Hansman, I. J. — Philippi

Boone

**Hunt, R. B. — Madison
**Stashak, F. J. — Sharples

Cabell

**Gotses, Paul S. — Huntington
†Hayden, G. D. — Huntington
Hayman, J. S. — Huntington

Central West Virginia

Glasscock, James R. — Richwood
Hutchinson, B. M. — Sutton

Fayette

**Bundy, W. E. — Oak Hill
Davidson, S. P. — Boomer
**Sims, Thomas C. — Fayetteville
Wight, Anne — Montgomery

Greenbrier Valley

**Hawkins, R. F. — Lewisburg
**Perkins, Haven M. — Quinwood

Kanawha

**Glass, W. J., Jr. — Sissonville
Lewis, R. A. — Charleston
**Lilly, Milton — Charleston
**Pearcy, Thompson — Charleston
**Rice, W. R. — Dunbar
**Sexton, Richard J. — Charleston
**Slaughter, James F. — Dunbar

Marshall

Arnold, J. E. — Cameron
**Clubb, E. M., Jr. — McMechen

Mercer

Gordon, J. C. — Bluefield

Mingo

Feldman, Walter S. — Williamson

Monongalia

**Douglas, Paul L. — Pursglove
**Heiskell, E. F., Jr. — Morgantown

McDowell

**Burke, John H. — Elbert
**Carr, Robert E. — Elbert
**Linkous, O. E. — Welch
**McKee, John S. — Bradshaw
Milchin, Sam — Jenkinjones
**Ringer, Paul H., Jr. — Elbert

Ohio

**Armbrecht, George L. — Wheeling
Cope, Paul H. — Wheeling

Potomac Valley

**Sites, Charles J. — Franklin

Raleigh

**Batalion, A. L. — Ameagle
**Covey, W. C., Jr. — Beckley
Davis, Charles E. — Beckley
Richmond, B. B. — Huntington

Summers

Stokes, J. W. — Hinton

†In Military Service.
**Released from Military Service.

AMERICAN CONGRESS OF PHYSICAL MEDICINE

The 25th annual scientific and clinical session of the American Congress of Physical Medicine will be held September 2-6, at the Hotel Radisson, in Minneapolis, Minnesota. All sessions will be open to members of the medical profession in good standing with the American Medical Association. Annual instruction courses will also be given September 2-5. These courses are open to physicians and therapists registered with the American Registry of Physical Therapy Technicians.

For full information concerning the convention and instruction course, address the American Congress of Physical Medicine, 30 N. Michigan Avenue, Chicago 2, Illinois.

RELOCATIONS

Dr. Charles W. Asbury, formerly located at Slab Fork, has moved to Hamilton, Ohio, where he has offices at 256 Laurel Avenue.

* * * *

Dr. George L. Armbrecht, of Wheeling, has taken over the offices of the late Dr. H. C. Harpfer in the Graff Building, 1130 National Road, in that city.

* * * *

Dr. Don V. Hatton, formerly of Williamson, has moved to Huntington, where he is continuing his specialty of internal medicine. He has offices at 1247 Adams Avenue.

* * * *

Dr. Wm. Carroll Boggs, who formerly practiced at Cameron, is now associated with Dr. Howard T. Phillips, 62 Fourteenth Street, Wheeling, in the practice of dermatology and syphilology. Doctor Boggs was recently discharged from the medical corps of the army after serving three years in the Pacific theatre, the last eight months being spent in Tokyo.

* * * *

Dr. George P. Heffner, of Charleston, who was formerly located at 1102 Virginia Street, has moved to the Quarrier Medical Building, 1115 Quarrier Street, where he will continue to practice his specialty of internal medicine.

County Society News

BOONE

Dr. Wm. A. Thornhill, Jr., of Charleston, was the guest speaker at the regular monthly meeting of the Boone County Medical Society, held at Madison, June 11. He presented an interesting and informative paper on the subject of "Common Allergic Diseases." The paper was discussed by several of the members of the society.

—L. A. Dickerson, M. D.,
Secretary.

* * * *

CABELL

Dr. Fritz Levy, chief of laboratory services, Veterans Administration, Huntington, was the guest speaker at the regular monthly meeting of the Cabell County Medical Society, held at the Hotel Prichard, June 12. His subject was, "Hodgkins Disease, Recent Studies in Diagnosis and Therapy."

—Thomas L. Grove, M. D.,
Secretary.

* * * *

FAYETTE

Dr. Joseph L. Hollander, chief of the arthritis section at the Hospital of the University of Pennsylvania, Philadelphia, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society held at the Hotel Hill, in Oak Hill, June 3. His subject was "Some Practical Considerations in the Management of Arthritis."

Preceding Doctor Hollander's address, the sound film, "Energy Release from Food," was shown to the members. The film depicts the role played by certain vitamin substances in the metabolism of various food elements.

—Joe N. Jarrett, M. D.,
Secretary.

* * * *

KANAWHA

Dr. Howard D. Fabing, of Cincinnati, Ohio, director of the School of Military Psychiatry in the ETO during World War II, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held at the Daniel Boone Hotel, in Charleston, June 24, 1947. His subject was, "Newer Knowledge of Psychoneurosis —Lessons of World War II."

—Theodore P. Mantz, M. D.,
Secretary.

* * * *

LOGAN

Dr. T. W. Moore, of Huntington, was the guest speaker at the regular monthly meeting of the Logan County Medical Society, held May 7 in the Appalachian Electric Power Company's auditorium at Logan. His subject was, "Herpes Zoster Opthalmicus." Dr. M. W. McGehee, also of Huntington, presented a paper on "Pediatric Ophthalmology," which was illustrated with lantern slides. General discussion followed the presentation of both papers.

—I. M. Kruger, M. D.,
Secretary.

* * * *

MARION

The regular monthly meeting of the Marion County Medical Society was held May 27, at the Westinghouse Electric Company's plant at Fairmont. The meeting was in charge of Dr. Seigle W. Parks, who outlined briefly the nature of the physical examinations given employees at the plant. After dinner, at which members were the guests of the company, a well-planned and properly conducted tour was made of the tube and motor plants.

At the business meeting held during the evening, Dr. C. L. Parks, of Fairmont, was elected to honorary lifetime membership.

It was announced that the annual tri-county medical meeting would be held in Morgantown, July 1, 1947.

—E. D. Wise, M. D.,
Secretary.

* * * *

OHIO

At the regular business meeting of the Ohio County Medical Society, held May 23, at Wheeling, the following officers were elected for the ensuing year:

President, Dr. Howard G. Weiler, Wheeling; vice president, Dr. C. G. McCoy, Elm Grove; secretary, Dr. J. D. Bird, Jr., Elm Grove; and treasurer, Dr. Charles D. Hershey, Wheeling.

Dr. W Carroll Boggs was accepted as a member of the Society by transfer from the Marshall County Medical Society.

—C. B. Buffington, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

Dr. John Finnigan, of Washington, D. C., was the guest speaker at the regular monthly meeting of the Potomac Valley Medical Society, held June 4, 1947, at Burlington. His subject was "Rheumatic Fever."

Dr. Robert Coffman, chairman of the Cancer Committee, announced that the first cancer clinic will be held at the Potomac Valley Hospital July 11, from 1 to 4 P. M. Doctors from Mineral and neighboring counties are invited to attend.

Dr. J. H. Wolverton, Jr., presided at the meeting, which was attended by seventeen members.

—E. A. Courrier, M. D.,
Secretary.

Conscientious and careful physicians allocate causes of disease to natural laws, while the ablest scientists go back to medicine for their first principles.—Aristotle.

Diabetes Abstracts

UNRESTRICTED DIET IN THE TREATMENT OF JUVENILE DIABETICS—G. M. Guest, M. D. Journal of the American Dietetic Association, April, 1947.

"Unrestricted" diet in the author's sense means the freedom to eat, without feeling guilty, the foods the nondiabetic child eats, and approximately in the same manner. The author's dietary recommendation on the unrestricted regime are approximately the same as for nondiabetic healthy children of the same age, but with more advice on general principles of normal nutrition. Judicious supervision of the child's food habits is maintained.

The author's clinic at the Cincinnati Children's Hospital has an enrollment of 33 patients ranging in age from 1½ to 17 years. Twenty-six of these are taking unmeasured unrestricted diets. All receive insulin, with dosage adjusted to permit constant mild glycosuria. All of these 26, and their parents, have had previous experience with prescribed measured diets. They know what may be expected with changes of food intake and insulin dosage, and they have also had first hand experience with insulin reactions, mild or severe. They appreciate the advantages of the more liberal glycosuric regime. Fairly regular food habits are usually observed after restrictions are lifted. The child eats more when hungry, or when there is hypoglycemia resulting from exercise plus insulin effects. Insulin shock is avoided without the careful attention required under the stricter sugar-free regime. Excessive indulgence in candy, or other single items of food, has not occurred in the author's experience, except for a few days at the beginning of the free regime when the child was apparently satisfying appetite and curiosity. The patients settle down soon to eating very much like nondiabetic children. Limitation is only imposed if obesity is developing. Patients test urine 2 or 3 times a day as a check on excessive glycosuria. The most valuable control, in the author's opinion, is the frequent testing, at home, of the urine for acetone. This is recommended for such special indications as colds, fever, gastrointestinal upset, loss of weight, thirst, polyuria, nocturia, unusual fatigue, or any sign of physical maladjustment. Extra insulin is given for positive acetone tests. When food is refused and acetone is found, extra carbohydrate as well as extra insulin are given. A great gain for some of these unrestricted diabetics has been their improvement in psychological difficulties and behavior problems. A diabetic child under strict regime requires constant close watching and is thus constantly singled out for special attention. This is naturally a source of friction in family relations. The author attributes many examples of behavior difficulties in restricted children to mild, almost inapparent hypoglycemic states, and has seen striking improvement in behavior and disposition result when a generous diet and constant glycosuria were permitted. The author was converted to favoring the free regime partly by the realization that some of his patients in the past who did not adhere to their restricted diets nevertheless got along very well.

Summary

The author's experience indicates that children on unrestricted diets with sufficient insulin to permit a mild glycosuria only, will show normal growth and development, with minimal ill health. Hospitalization is rare. Insulin reactions are less frequent, and psychologic and behavior problems are notably less than in diabetic children who have been kept on measured diets with insulin adjusted to keep them sugar free.—F. R. W.

*The material in this column is supplied by members of the Committee for the Study of Diabetes. The conclusions of the authors are not necessarily endorsed by the committee but are presented to acquaint the profession with the current literature in this field.

DINNER AT 8:01½

Busy nurses who come home tired from an eight hour shift will be glad to know of a manufacturer's fantastic promise become a reality. In the future it may be possible to turn on the stove when you come in and have dinner cooked before you get your coat off. This development, that may produce a new generation of short-order cooks, is a radar stove.

In a recent demonstration, gingerbread cooked in 29 seconds. Raw hamburger and onions in buns sizzled to a turn in just half a minute. A whole pre-cooked meal of frozen steak potatoes, and peas was ready for the table in 90 seconds.

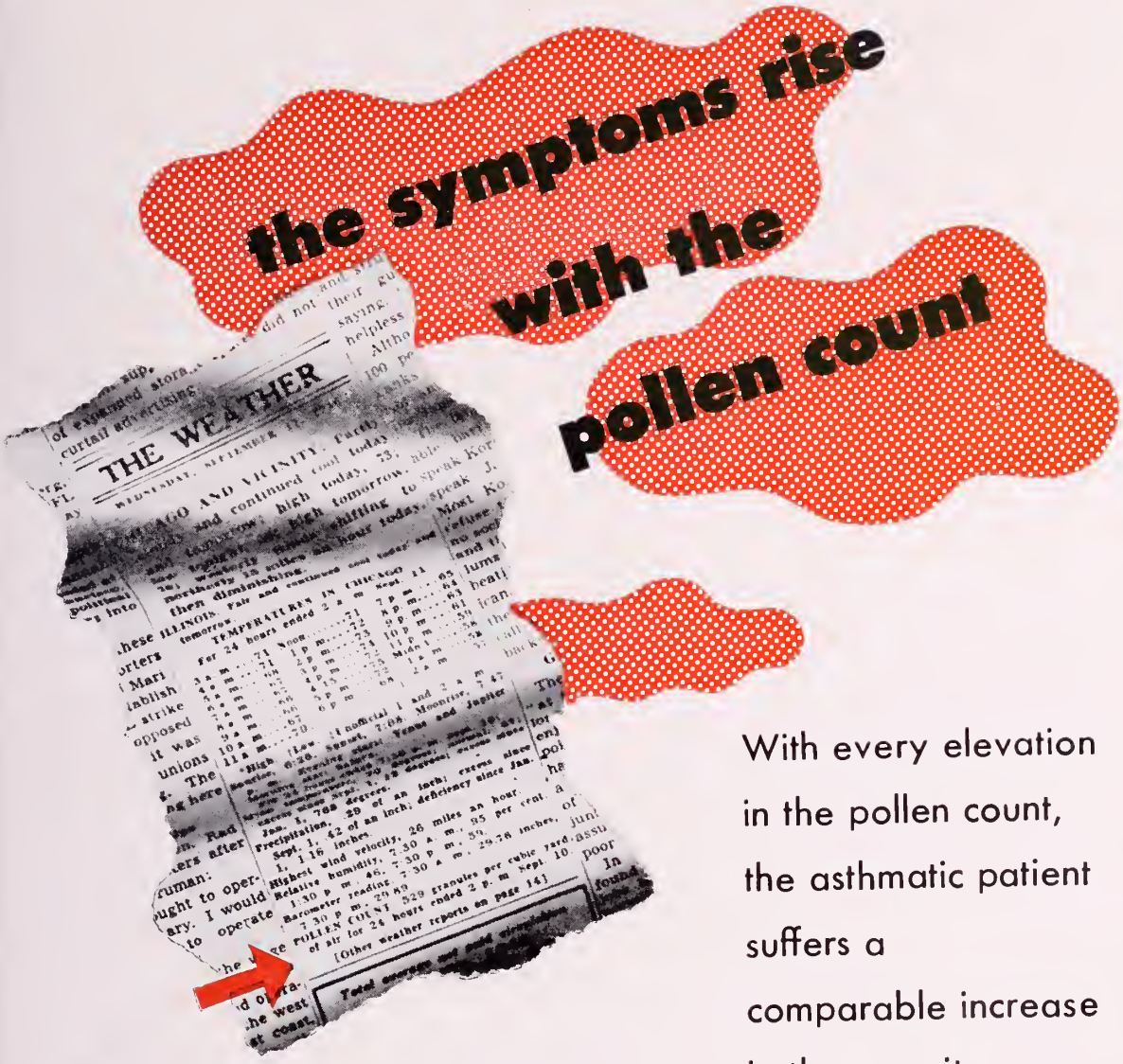
Radar cooked food is speedier and superior in flavor and texture, but the public may have to forego one aspect of old fashioned meals. Cakes and biscuits, for instance, are light and fine textured, but without crust. Roasts cook in two minutes but are gray on the outside. Spinach, however, still looks like spinach; radar cooked vegetables are unaltered in appearance.

(But what will happen to our three minute eggs?—The Editors.)—R. N.

PHARMACY AS A PROFESSION

A druggist may be a tradesman but pharmacy is a profession. A profession has attributes which differentiate it from a trade regardless of the character and importance of the trade. The people do not recognize and appreciate this fact to the extent that they should. It should be brought forcibly and constantly to their attention. I do not know how it should be done but I am certain that there are drug industry leaders who could do it.

The need for good, dependable pharmacists is even more essential today than ever before because of the progress that has taken place in the development of many new pharmaceutical products of great value and potency. The fact that pharmaceutical manufacturers have produced pills, mixtures, etc., which facilitate the dispensing of many drugs by physicians, has not diminished the need for qualified ethical pharmacists. Their services are not only essential, they are indispensable in our great modern system of medical care.—H. H. Shoulders, M. D., in American Druggist.



With every elevation in the pollen count, the asthmatic patient suffers a comparable increase in the severity of symptoms. In the dyspnea of allergic asthma, Aminophyllin has been found to provide efficient relief.

AMINOPHYLLIN

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TABLETS SULFADIAZINE
0.5 Gm.

TABLETS PHENOBARBITAL
16 mg. (¼ gr.), 32 mg. (½ gr.), and 0.1 Gm. (1½ gr.)

TABLETS NIACINAMIDE
50 mg.

TABLETS MENADIONE
2 mg.

TABLETS AMINOPHYLLINE
0.1 Gm. (1½ gr.)
0.1 Gm. (1½ gr.) Enteric Coated Yellow
0.2 Gm. (3 gr.) Enteric Coated Purple

TABLETS DIETHYLSTILBESTROL
0.1 mg., 0.5 mg., and 1.0 mg.

All of these products are supplied in bottles of 100, 500, and 1,000. We shall fill your orders promptly.

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ANNUAL REGISTRATION IN INDIANA

Annual registration of doctors will be required in Indiana effective July 1, 1947. For the benefit of doctors holding Indiana licenses who reside in West Virginia, we quote part of the act (Chapter 254, Acts 1947, General Assembly of Indiana):

"Every person who now holds, or may hereafter hold, a valid and unrevoked certificate for a license to practice the Healing Art in any form or manner, granted by the Board of Medical Registration and Examination of Indiana, shall be required to register with said Board, during the month of July and not later than the last day of August, immediately following the effective date of this Act, which registration shall be for the period ending June 30, 1948, and shall, annually thereafter, on or before August 31st of each year, be required to register with said Board. Each applicant for registration shall remit with his application the sum of Five ($5) Dollars as the annual registration fee if he resides within the boundaries of the State of Indiana; and if residing outside the boundaries of the State of Indiana, shall remit the sum of Ten ($10) Dollars as the annual registration fee. Failure to comply with provisions of this Act shall operate automatically to cancel his/her certificate, and any license issued thereunder, and continued practice after cancellation of the certificate, and license issued thereunder, shall be considered as practicing without license."

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VA Medical News

NEW FORM MAILED TO SPECIALISTS

A new form (VA 10-2554) has been mailed by the Veterans Board of Review to all fee-designated doctors in West Virginia classified as specialists. The new form was prepared by the Veterans Administration in order to obtain necessary specific information concerning the specialty, if any, practiced by the participating doctors in this state.

Dr. Claude B. Smith, chairman of the Veterans Board of Review, has requested that the form be filled out without delay and returned to the headquarters office of the West Virginia State Medical Association, Box 1031, Charleston 24, West Virginia. The information furnished by the fee-designated specialists will be transmitted promptly to the VA Regional Office at Huntington.

A CLARIFICATION

In a news article printed in the May issue of the Journal, a letter from Dr. Robert C. Cook, deputy medical director, Veterans Administration, addressed to Dr. Claude B. Smith, chairman of the Veterans Board of Review, Doctor Cook was quoted as saying that there is no regulation preventing dispensing doctors from writing prescriptions for any indicated medication, when authorized to treat VA beneficiaries.

A clarification of this statement has been issued by Doctor Cook, who emphasizes the fact that physicians, when authorized by the VA to treat a veteran for a service connected disability, may prescribe any indicated medication applicable to the specific service connected condition for which authority to treat was granted.

* * * *

VACANCIES FOR SOCIAL WORKERS

The Veterans Administration has announced that there are two vacancies for social workers in the

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Regional Office at Huntington. According to Dr. Leo F. Steindler, Chief Medical Officer, applicants must have satisfactorily completed at least one year of training in an approved school of social work. Training must have included supervised field work and courses in psychiatric or medical information, and, in addition, one year of social case work experience in a health or welfare agency of acceptable standards.

The salary is $3397 per annum, working conditions and facilities are excellent, and a standard work week of 40 hours prevails. Full information may be obtained from J. A. Sneed, Placement Officer of the VA Regional Office, 824 Fifth Avenue, Huntington.

* * * *

VACANCIES IN MEDICAL DIVISION

Several vacancies for doctors exist in the medical division of the Veterans Administration Regional Office at Huntington, according to Dr. Leo F. Steindler, Chief Medical Officer. Four vacancies are to be filled immediately, including a dermatologist, a psychiatrist, and a tuberculosis specialist.

Applicants for the position of physician, dermatologist, and tuberculosis specialist must be American citizens, must hold a degree of doctor of medicine from an approved college or university, must have completed an approved internship, and must be licensed to practice medicine and surgery in the United States. Applicants for the position of psychiatrist must show that they have completed an internship and must have had several years' experience in civil or military practice.

Salaries for these positions are determined by the Professional Standard Board, based on the number of years each applicant has had in medical practice and training. In addition to this, twenty-five per cent increase will be added to the base pay for those having specialty ratings approved by the American Specialty Board. Working conditions and facilities are excellent and a standard work week of 40 hours prevails.

Applicants should address J. A. Sneed, Placement Officer of the VA Regional Office, 824 Fifth Avenue, Huntington.

NEED FOR CANCER CLINICS

Perhaps the most serious objection which has been advanced to the Cancer Prevention Clinic is that much time of medical personnel is spent in the examination of normal tissue. It is argued that the same effort devoted to the application of standardized therapeutic procedures would be equally saving of life. This argument is plausible, but does not stand analysis.

The over-all rates of 5 year surgical control of cancer are in general about as follows: breast 35%, uterus 25%, rectum 12%, bladder 6%, stomach 4% and lung 2%. Lesions of these organs account for a large part of the deaths from cancer. The cure rates are low, in some part, because therapeutic procedures already available have not been effectively applied. In the vast majority of instances, however, incurable disease is due to late diagnosis.

If any facts have been adequately proved, they are that early cancer can be detected in the Cancer Prevention Clinic and that early cancer is more curable than late cancer.

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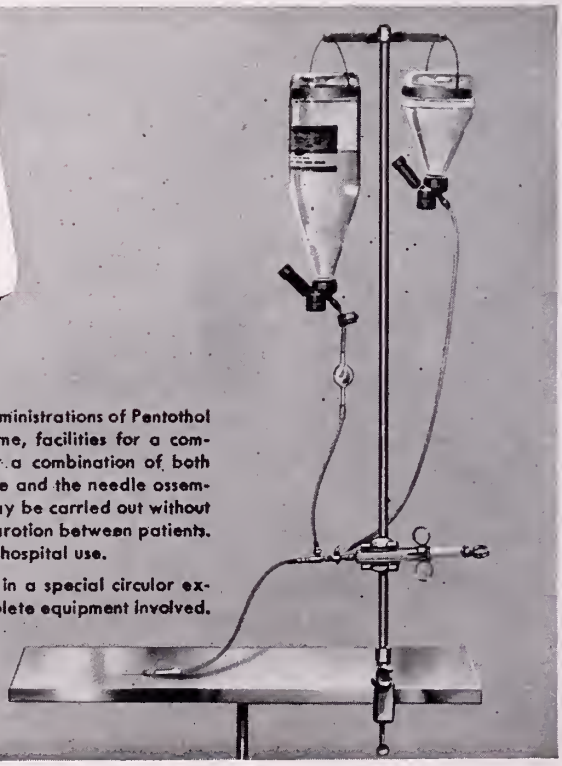

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Obituaries

CLEMENT COLEMAN FENTON, M. D.

Dr. Clement Coleman Fenton, 54, professor of pathology for the past twenty-one years at West Virginia University, in Morgantown, died of coronary occlusion at his home in that city May 28, 1947.

Doctor Fenton suffered a heart attack in March, 1946, but recovered sufficiently to resume his work at the University at the beginning of the fall semester in September. He continued in active service until his death.

Doctor Fenton received his academic training at Columbia, and was graduated from Cornell University Medical College in 1925. He also held degrees of B.S., and M.S. from West Virginia University. He first came to the University in 1922 as acting professor of pathology. After he received his M.D. at Cornell, he returned to West Virginia as professor of pathology. In 1930 he took postgraduate work at the University of Vienna, Austria, and at Kranhaus-on-Friedrichshain, in Berlin. At the time of his death, he was serving as president of the West Virginia Association of Pathologists. He was a diplomate of the National Board of Medical Examiners, and the American Board of Pathologists. He was a fellow of the American College of Physicians, the American Society of Clinical Pathologists, and the American Medical Association. He was a member of the West Virginia State Medical Association and was a past president of the Monongalia County Medical Society. As chairman of the local society's cancer committee, he was instrumental in organizing a tumor clinic at Morgantown.

Doctor Fenton was in the Naval Reserve in World War I, and at the time of his death held the rank of Lieutenant Commander, retired, in the Medical Corps of the U. S. Naval Reserve. Besides his widow, he is survived by his mother, Mrs. Rose Fenton, of Morgantown; and a brother, Norman Fenton, of Sacramento, California.

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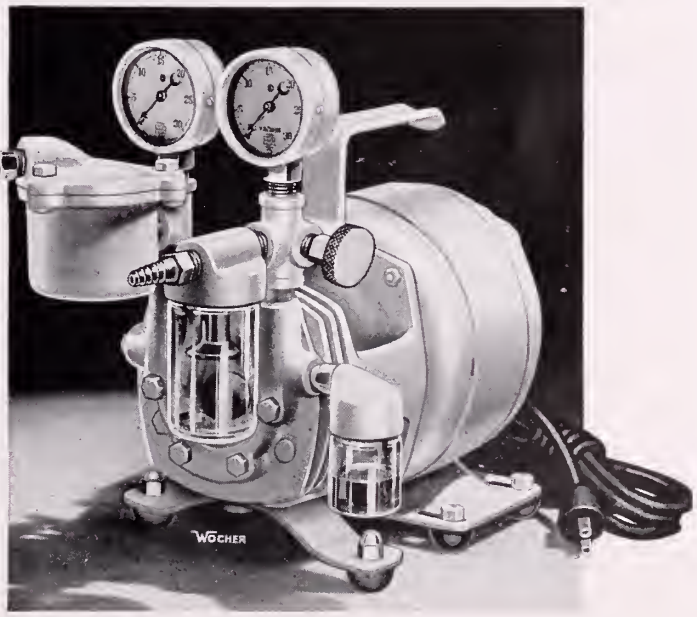

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HEALTH DEPENDS ON THE SOIL

The people of this world are gradually starving themselves into one of the greatest wholesale disappearing acts ever recorded in history unless the doctors, chemists, and agronomists wake up to the basic cause of the great increase in so-called mental, physiological and physical diseases. We have definite evidence that deficiency diseases are increasing in both plants and man; but, for some reason unknown in the most scientific nation of the earth, there has not been a general recognition of the cause and source of these deficiencies.

We know when a gas tank on an automobile is empty we can keep the motor running by supplying gasoline in the carbureter with a squirt can, but the common-sense thing to do is replenish the supply of gas in the tank so the motor can feed itself. The deficiency diseases in animals and man are being treated by supplying minerals and vitamins in capsules which is just as ridiculous as the squirt can method of keeping the gas engine running.

Doctors and chemists must recognize the basic fact in nutrition that the source of all vitamins, minerals and food, is the soil. When the soil is depleted of these minerals, the plants grown on the soil will also be deficient, thereby causing a deficiency to develop in man and animal who live on the soil. There should be a close-working relation between medical science, chemists, argronomists and soil scientists in order to find out more about treatments needed to apply to the soil in order to eliminate the squirt can method of keeping the human engine running smoothly.—P. H. DeHart, M. S., and R. M. DeHart, M. D., in Virginia Medical Monthly.

GERIATRICS AND THE MEDICAL PROFESSION

Today a man of sixty may be as young, vigorous and vital as the average man of forty. On the other hand, he may present the common picture of the man of eighty, old, weak and miserable.

Whether a man is old or young at sixty depends much upon the service the medical profession has rendered to him in the years preceding sixty, especially in the two preceding decades. Just how young or old he will be at seventy, eighty or ninety will also depend much on what the medical profession does for him.

Geriatrics is the name given to medical services for the aging and aged. It has to do primarily with disease. As Pediatrics relates to early years, Geriatrics relates to the late life period. It is both clinical and preclinical, remedial and preventive. It seeks to cure, ameliorate, postpone, support, protect, prevent. It is the physician's special field of work.

The American population is aging. The incidence of disease and disability and the changes in death rates all indicate a shift to the higher age brackets. Geriatrics is rapidly becoming the predominant field of interest and concern in public health and private practice.—C. Ward Crampton, M. D., in New York Medicine.

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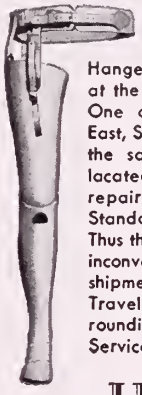

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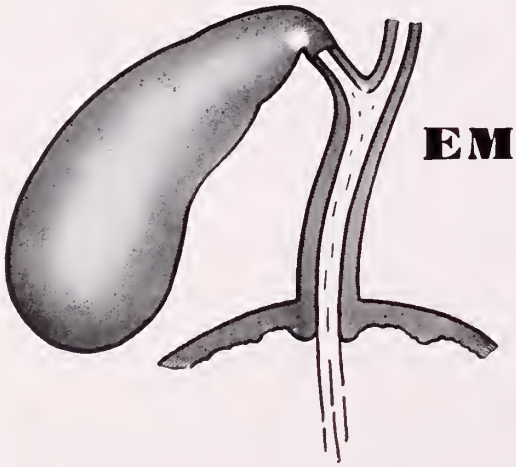

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Vol. XLIII AUGUST, 1947 No. 8

MEDICAL PERSPECTIVE*

By P. A. TUCKWILLER, M. D.
Charleston, W. Va.

It is indeed an honor to be selected by the President of the West Virginia State Medical Association to deliver the oration on medicine, for which I am humbly grateful. I make no apologies for some of the critical remarks to follow because I assume that the nature of this assignment gives one the license not only to ramble but to preach. But first let us touch briefly upon some praiseworthy achievements. During World War II necessity was a strong impetus to much medical progress. During all previous wars, illnesses had exceeded battle casualties as the cause of disability among soldiers. In a paper delivered before the American College of Physicians last year, Dr. William S. Middleton, who had served as medical consultant in the European Theater of Operations, pointed out that battle casualties exceeded illnesses, at least in the European theater, for the first time in history. This, in large part, of course, was due to the great advances of preventive medicine. For example, tetanus toxoid eliminated thousands of cases of serum sickness from the use of tetanus antitoxin. Typhus fever was practically nonexistent in the American Army as a result of vaccination, indeed a great contrast to the incidence in other armies. Likewise, we may mention typhoid fever and yellow fever.

In addition, however, much credit must be given to the improvement in organization of the Medical Corps in this war, as compared with World War I, as well as to the progress of medical science itself. There was a high incidence and mortality from meningitis in World War I, with relatively few deaths from this cause in World War II as the result of chemotherapy. Malaria was a gigantic problem, but vast research soon made it possible to reduce greatly the incidence of this disease. Atabrine proved of extraordinary value, in this regard, and perhaps better antimalarial drugs are in the offing. Despite the high incidence of venereal diseases, chemotherapy reduced to a minimum the time lost from active duty. One of the greatest advances in this war from what we were able to observe, has been the improvement in chest surgery. No longer are such cases kept in bed for many weeks but instead early postoperative mobilization and breathing exercises have come into use and have given better results. Today, the mortality from lobectomies for bronchiectasis is much lower. A few cases of bronchial carcinoma, when diagnosed early, will be salvaged by pneumonectomy. Even surgery of the heart and great vessels is being accomplished successfully.

Those doctors who carried the added load on the home front when many thousands of physicians were in the armed services deserve much praise. Included among them are many of the older doctors who had retired or who would have done so had not their sense of duty stimulated them to carry on, often for long hours. In addition, I believe I speak for the majority of us who were in the armed forces when I say that we are deeply grateful for the many courtesies extended us during our sojourn and upon our return.

*Oration in medicine presented before the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 13, 1947.

Certainly most of us realize that the volume of work and the shortage of doctors necessitated many short-cuts, and that it was impossible to maintain the high standard of medical practice of which the profession is capable. It is my impression that the great majority of people, considering these facts, were very cooperative under the circumstances. But let us now beware that we do not remain in the ruts that developed because of this situation. We are indeed in the terrific backwash of the world's greatest war. There are tremendous upheavals in government, business, and in the average American home. The medical profession is not immune to these reactions. Indeed its responsibilities are greatly increased because of them.

We may be too busy to spend much time on philosophy but to do our job well, we must pause and consider. Sir William Osler, in a baccalaureate address, once said: "Heed the salutation of the dawn." Let us not worry about what happened yesterday or what might happen tomorrow, but let us do the best we can today. This is a good philosophy for us, as well as for many of our patients. On the other hand, it seems to me that occasionally we should become objective and look at ourselves from the layman's viewpoint. Thus doing, I feel sure we would make an effort promptly to bring about changes in our own practices which would greatly lessen the likelihood of passage of any federal bill resembling the Murray-Wagner-Dingle Bill. We should consider our accomplishments and failures alike for the past decade and set our goals with firm resolve for individual and collective improvement in the decade ahead.

Now let us try to be more specific. Many laymen, as the result of what they read and hear, have come to appreciate the value of preventive medicine and of a regular, periodic physical checkup. Yet too often these people will go to a doctor's office, not having some obvious disease or complaint, and the doctor passes off this person too lightly with the excuse that he has too many sick people under his care to bother with this sort of business. The fact remains that early recognition of cancer and of many other diseases will increase the chance for prolongation of life and happiness. Then too, in our civilian practice, are we forgetting to practice preventive medicine, such as immunization against tetanus? With the many increased aids in diagnosis, namely, x-ray, laboratory, electrocardiography, metabolism machines, again I fear that the art of taking a good history is losing ground. Yet I believe that all medical schools still teach that a good history is the most important part of an accurate diagnosis, likewise, a careful physical examination. Have we gotten in too big a hurry to stick to fundamentals?

It has been conservatively estimated that at least 30 per cent of patients seeking help in doctors' offices are suffering primarily from an anxiety tension state. In this condition the usual symptoms encountered are dizziness, blurring of vision, headache (chiefly occipital), with tightness at the back of the neck, band-like feelings around the head, the sensation of a weight on top of the head, a lump in the throat, palpitation and 'flip-flops' of the heart, inability to breathe deeply (or air hunger), full feeling in the pit of the stomach, belching, borborygmus, flatus, alternating constipation and diarrhea, numbness and tingling of the extremities, generalized weakness (more especially weakness in the knees), frequent periods of shakiness, insomnia and anorexia. Usually, patients having a few of these complaints, upon careful questioning will be found to have a majority of this group of symptoms. Too often then, the doctor examines such a patient and tells him: "There is nothing wrong. Go home and forget it." That person is indeed a sick person and the symptoms are very real. That doctor has done more harm than good. The patient promptly proceeds to another doctor and may end up eventually with chiropractors or quacks. Could it be true that some of these practitioners are more appreciative and understanding of human emotions than are some members of the medical profession? It is true that physical examination reveals little in such a patient, perhaps a pulse that is slightly fast, moderate distention and tympany over the stomach and colon, cold, moist hands, feet and armpits. But a careful history will make the diagnosis. It is not sufficient to tell such a patient that "It is just your nerves." It is almost always necessary to spend sufficient time in making a careful explanation of how nervous tension can cause these various symptoms through the normal mechanisms of the autonomic nervous system so carefully worked out by Cannon, Ranson and others. It long since has been proved that the so-called rest cure is not effective. On the contrary, after careful explanation of the cause of the illness, the proper prescription is for a well balanced program of living, which includes proper proportions of work, rest and play. General practioners, as well as internists, should manage such patients; there are not nearly enough psychiatrists. Besides, the illness is a nervous illness and not a mental illness, and, if properly handled, rarely leads to a mental illness. It behooves every

medical practitioner to familiarize himself with psychosomatic medicine so that he will be able to differentiate the neuroses from the psychoses. Then he may properly enlist the aid of the psychiatrist. While most doctors are interested in treating tangible, specific diseases, we must not shirk our responsibility but must remember that our patients are human beings with emotions which affect the turning of the wheels rather than merely a composite of organs and organic functions. It seems to me that patients have the right to know, at least briefly, what we find wrong and why we expect them to cary out certain treatments. Surely their cooperation and the results are better when a doctor will take the necessary time to accomplish this end. Of what avail are liver function tests, kidney function tests, electrocardiograms, blood chemistry, x-rays, unless we take time to establish a patient's confidence and cooperation.

It has been rightfully said in the past that it is better to remove a normal appendix from ten persons than to allow one to rupture and result in peritonitis. I believe, however, that a certain proportion of these ten can be correctly diagnosed before surgery. I do not believe, however, that it is better to remove ten normal ovaries than to allow a small cyst to remain in one. Is it not a little appalling to see the large number of young women who have had both ovaries removed, some of which contained nothing more than normal corpus luteum cysts? But enough of criticism of surgery, for certainly the surgeons can point their fingers at us for much misdirected therapy along medical lines.

We know that penicillin is a great drug. But did you ever hear a doctor say: "The patient had a fever of 103 F. so I started penicillin." Penicillin is indicated in certain infections, not for fever. The symptomatic use of sulfadiazine and penicillin is, of course, occasionally justified in critical undiagnosed illnesses, but, on the other hand, its use frequently makes diagnosis more difficult, if not impossible. For example, pneumonia may be due to a virus infection, in which case chemotherapy is of no avail. In most cases, I think with a careful history and physical examination, along with an inspection of the sputum, a differential diagnosis can be made. It is well established that influenza is caused by a virus and yet a few doctors still prescribe sulfadiazine or penicillin.

There is much misdirected therapy in the treatment of arthritis. Penicillin produces miraculous results in gonorrheal arthritis but for the great mass of cases of rheumatoid arthritis, it has no established value. Much research has been done in good arthritis clinics throughout the world with vaccines, gold shots, fever therapy, vitamins and many other drugs too numerous to mention. Unfortunately, the fact remains that a careful, long program of general management is all that is of proven value. This includes rest, heat, daily complete range of motion of the involved joints, iron (when needed for secondary anemia), thyroid (if a deficiency exists), and such drugs as aspirin for pain. Yet many doctors still prescribe ertron and similar misrepresented products. Not only is the use of large doses of vitamin D of no merit in the treatment of arthritis, but it is not without danger, occasionally resulting in renal calculi.

A few doctors still treat nervousness in women between the ages of thirty and sixty with "ovarian shots." There are undoubtedly many instances of severe climacteric symptoms in which estrogenic therapy is indicated, but I have a deep conviction that this therapy is greatly over-used. It is well established that estrogenic therapy, while giving temporary relief, tends to prolong menopause, and I have known of several such cases having been so treated for ten to fifteen years. There are other indications for estrogens, such as osteoporosis, but cessation of ovarian function is by no means the only cause of nervousness in middle-aged women and estrogens are not a panacea.

In the treatment of anemia, I still hear of doctors who give "iron shots" despite the fact that it is definitely established that oral iron medication is the treatment of choice for the hypochromic anemias. Liver extract intramuscularly is the treatment of choice for pernicious anemia, but is of no value in the larger group of secondary anemias. Too often "shotgun" prescriptions containing iron, liver, copper, vitamins and folic acid are prescribed. These are not only unnecessarily expensive but contain an inadequate amount of the indicated drug.

Hypotension is a serious finding in the rare case of Addison's disease or in shock, but what are these "shots" that a few doctors give for low blood pressure? It is my practice to tell these people to rejoice that their blood pressures are low.

Alcoholism is another disease, the prevalence of which increases during and after every war. Medical science has been unable to prove the exact cause of this disease. One of the best theories is that it is a sensitization of one's nervous system, which, once established, is an incurable, lifetime disease. An alcoholic is unable to take a small quantity without continuing to

drink larger and larger amounts. Eventually he needs a drink in the morning in order to control his nervousness. The vast majority of people are able to control their drinking, but an alcoholic is powerless under the control of King Alcohol. There are thousands suffering from this disease. Prior to 1936 the church and the medical profession together salvaged not over 15 per cent of such victims.

In 1936 an Akron doctor and a New York stock exchange broker, both of whom had managed to break their vicious habit of drinking, started an organization known as Alcoholics Anonymous. For those victims of alcoholism who are willing to admit that they cannot control their drinking, who earnestly want and will accept help, this organization has salvaged well over 50 per cent of cases. In other words, the chances of good control are three times as great with the aid of A. A. This is rapidly coming to be recognized by the medical profession. It has been endorsed by psychiatrists of leading sanatoria for alcohol and drug addiction. The A. A. program involves well established principles of group psychotherapy. Misery loves company and no one can help an alcoholic better than one who has himself been through the miserable experiences which they all suffer, and who has learned a good program of control. Alcoholism may be likened unto diabetes, an incurable disease which can be perfectly controlled. I often have wondered if some of our diabetics who do not take their diets seriously and who fail to cooperate, would not benefit from a similar organization. Regular meetings once or twice a week, in which they would learn more about their disease, the serious consequences they might expect if they do not control the disease, in which they can boost one another's morale and discuss their mutual problems, would, it seems to me, have enough merit for consideration.

Obesity is another great problem. It is well established that excessive eating and the maintenance of excessive weight shortens one's life on the average of ten to fifteen years. Doctors are successful in persuading obese people to reduce in about 10 to 20 per cent of cases. Food is to an obese person what whiskey is to an alcoholic. Perhaps a similar organization for the obese would be worthwhile.

Another most serious disease is morphine addiction. As serious as is alcoholism, morphine addiction is much worse. The principles employed in the organization of Alcoholics Anonymous would certainly apply to drug addicts and I believe would increase definitely the number salvaged.

Happiness, religion, home, physical well being cannot be sharply divided, and so often people must go beyond the help of another human being. They need help beyond the power of any doctor to provide, namely, that of the Divine Healer. This is one of the important principles of A. A. but it is accomplished through good deeds rather than through preaching, the good deeds of helping one another. There are here in Charleston many fine citizens who literally, a few years ago, had lost their jobs, their friends, their homes, their self-respect. Most of these owe their complete restoration of character to the fine program of A. A. Just as I believe a former alcoholic can help best a present sufferer, so I believe a good number of this organization can impress you best with the potentialities. I have asked one member of Alcoholics Anonymous to talk to you and am very confident that this will be a most interesting conclusion of this presentation. Mr. .....:*

REMARKS BY A MEMBER OF ALCOHOLICS ANONYMOUS

I knew the taste and feel of a fine cold drink of double run moonshine taken from a bottle or jug in the creek, or a cold spring, I knew the taste and feel of a grand highball made from 100 proof Scotch or bourbon; of a good beer and ale, of the oldtime barreled whiskey, of home brew. For about six years it was what lots of us called fun. No harmful effects. Then I knew what a fine thing alcohol was as a medicine — the five or six years I had to use it the next morning after a party or a drunken trip. After that I knew whiskey, wine, beer, rum or what-have-you as something that permitted me to escape responsibilities, realities, problems, lectures or anything unpleasant. During that period I ran, then dragged, to doctors (some of you in here can vouch for it), ministers, rabbis, priests, practitioners, hospitals, insane asylums.

Coming out of one asylum after six weeks and feeling wonderful, I felt that since I was never going to take another drink I had better have one or two bottles of beer before leaving the bus station and going home. I didn't get home. After trying everything anyone suggested I found myself at the end of the road — facing three blank walls every time I closed my eyes — prison, insane asylum or death. I literally crawled to Akron in 1941, which was then the closest contact with A. A. I was lucky in finding a doctor, one of the two founders of A. A., who told me

*The co-author's name has been purposely omitted as is customary in all literature of Alcoholics Anonymous.

what I would have to do. I did everything I was told; it did not cost me a dime. I still do exactly as I was told back there. I haven't had any alcohol in me since. Hard? Yes! Easy? Yes! Weak? Yes! Strong? Yes! Confusing? Yes! But it works. I am proving it every day.

Alcoholics Anonymous is not a chartered organization in any sense of the word. It is purely a fellowship. There is no head, no officers, no dues, no rules. It grows and spreads only as one arrested alcoholic finds a sick alcoholic who is worn out with the fight, and is willing to pass his burden on to other shoulders.

It began in Akron in 1934, it spread to Cleveland, New York, Chicago, slowly. It began with two men. Gradually it spread to other cities and states in the form of groups. Our state has over 30 such groups to my knowledge, in various towns and cities. There are over 1,500 in the United States with 50,000 active members. Each group is made up of individuals living a daily philosophy which has proven successful. These individuals meet often to trade help to each other. They do it for personal security, not to spread it by publicity of shows. It is their only means of continuing to live happily. There are no dollars involved, and no ulterior motives.

At first it is a purely selfish method of staying alive, but in this very method the new member finds he must "pass it on" in order to keep it. It has been proven over and over that this way of living cannot be crusaded; it cannot be pushed down the throat of a single human being, no matter how sick or near death. It can be successful only when one sick alcoholic comes of his own accord to a sober alcoholic and says: "Bill, I can't stand any more. Please show me how you do it." Only then has A. A. a chance to work. If that asking alcoholic is actually willing to throw his daily life, plans and troubles on to the shoulders of his new friend, he very soon finds he is sober and amazingly grateful. A. A. works one hundred per cent if the alcoholic works it one hundred per cent. Please know these percentages have never missed yet.

You can see what a real responsibility a sponsor has when he takes on the man's burdens. Now you can see why a group of men cannot "take over" this responsibility. However, group therapy is one of the most valuable assets for members who are working the program. In getting together once or twice a week they continue to see the program working. There is no organization I have ever heard of to which one of its members may go and receive wholehearted time, energy, thought, and dollars when needed. There are no angles played, no politics, no secrecy, no one to lay down a law or a rule. No sincere A. A. member could possibly lie to a fellow member, or to anyone else for that matter.

Can't you see further, now, why only an alcoholic can help another alcoholic? They must have lived the same horrors, the same troubles, the same lies, to know they must stick together or die. The mistreated wives, husbands, relatives, employers and friends cannot do this for them. They cannot push them into it. They cannot help them by one word or deed. Pitiful, isn't it? Because those same people are so sincere, so urgent, and deeply want to be so helpful. But it can't seem to be done.

So, when a relative or friend comes to you in your busy daytime hours, or most likely in the middle of the night, begging with tears and fear for you to help their son, husband or brother, just insist that the sick man come to you instead. If he is too drunk to make it, tell them to have him come when he can't hold a drink down but has regained some strength. If he is in earnest, for himself, he finally will come. That is the time when you can find out whether he really is sincere about wanting to get clear away from liquor. If you are convinced he is sincere, and doesn't simply want to learn how to take one or two drinks without getting drunk, then give him the best medical advice you ever gave an alcoholic in your life: take him or send him to an A. A. member who is proving he can stay sober happily. You can find one easily with a little search. I know of, and see here today, many doctors who are proving it. I have watched this work in Akron, Cleveland, Toledo, Boston, Atlanta, New Orleans and in our towns and cities in West Virginia.

You doctors are the best friends we have. You told us for years what to do, but you couldn't prove to us that we couldn't take just one drink. We now are following every word of advice you formerly gave, but we had to have it come from another alcoholic who proved it before our eyes. Please remember that in being here I represent no on but myself. A. A. as a fellowship can be represented by no one. All I say in the way of observations are purely my own. Please take them as such.

I have found this seeming fact over a period of five and a half years of living the A. A. way. An alcoholic never takes his first drink with the slightest thought that he will get drunk! No one wants to get drunk. It is this very fact that keeps him trying over and over to get back to the time when he could "take a few" and go

home. It is this very fact that keeps him going to you doctors, and all others, hoping that some miracle will be worked out that will permit him to take one drink without getting drunk. It is this very fact that causes him to believe, finally, that he is what people say about him — "weak, stubborn, mean, a liar, undependable, vicious, crazy." Then he feels ostracized. He doesn't know it is a disease, just as much so as tuberculosis, Bright's disease, cancer, or any of the others which we can't combat or cure quickly. So, he keeps coming back to you for shots, pills, or anything else to ease his mental, nervous and physical pain and remorse. He takes your time, energy, thoughts, money and your services away from other sick people you can really help.

Again let me say — the greatest help you can offer an alcoholic (that is a person who can't tell you just where he will stop after having one drink) is send or take him to someone you know who has been helped through A. A. But don't worry about him unless he has come to the point that you feel he really wants to get completely away from even one drink.

A. A. has but one purpose — to help the sick alcoholic recover, if he really wants to.

It has been proven by thousands that if the alcoholic really wants sobriety and works the suggested program one hundred per cent, it works one hundred per cent for him. And only an alcoholic can help an alcoholic directly. We want to help you help sick alcoholics. May we be your right arm? We cannot tell you why any man drinks himself into oblivion. We cannot tell you why one man gets out of hand after five drinks, and another man can drink a fifth a day for a week before losing control. We cannot tell you why a man will know inside himself that he has been doing wrong but will still insist that he can take a few drinks and stop any time he pleases. We cannot tell just when a man passes from a social or party drinker into an alcoholic.

It may be that sometime in the future your medical profession, the psychiatrists or the Yale Studies on Alcoholism may know exactly why a man becomes an alcoholic. That will be wonderful for future generations. For the present we alcoholics, working through Alcoholics Anonymous, know only that when we take one drink we cannot guarantee where we will stop. That is enough. Now that we have found the way to keep from taking that one drink and be happy, nothing but the straight line of our A. A. program will suffice. So, we ask that you let us help you by your helping us.

MANAGEMENT OF BREECH PRESENTATION*

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In thinking over some of the various obstetric subjects which naturally come to mind, it has seemed to me that breech delivery presents the practitioner with more real difficulty than any other single problem. Milton Potter considers breech delivery as "one of the most serious complications of obstetrics." Dieckmann also states that in his opinion "the best clinical test of a doctor's obstetric ability is his management and delivery of a breech presentation." Just how serious a complication breech position really is will be realized by reading almost any statistical study from the larger clinics. These reports will be found to vary widely and first glance may cause us to wonder at apparently irreconcilable figures. The differences, however, are due largely to the manner in which the writers have corrected their gross mortalities. For example, some authors have eliminated prolapse of the cord while others consider this as a hazard due directly to the fetal positions. Other factors, such as the size of the baby, in determining viability and fetal maturity cause wide disagreement. In short, just what constitutes an uncomplicated breech delivery apparently is not yet completely decided. It would seem fair to say, however, that a gross fetal mortality of 7.5 or 8 per cent which may be corrected to 3.5 or 4 per cent for term pregnancies is excellent.

For the mother also, the risks entailed are greater. The morbidity and mortality rates are higher, injury to the maternal soft parts is more extensive, and hemorrhage is more apt to occur.

From the foregoing it will be observed readily that breech presentation is a real problem and most clinics have taken steps to give these cases special attention. Usually the delivery will be conducted by the resident or a member of the attending staff instead of any intern who happens to be available. The writer distinctly remembers a physician, now deceased, who offered to allow a green intern to deliver a known breech on which labor had ben induced by the insertion of a bag, when he knew also that this same patient already had lost four children delivered as breech cases. I was able to persuade the intern to let the patient alone and when the doctor himself delivered the child (her fifth), it also survived only a few hours. Autopsy revealed bilateral ten-

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torial tears. These cases should be thoroughly studied before labor commences, utilizing every means at our disposal, both clinical and roentgenological. The writer does not believe that breech presentation is in itself an indication for abdominal delivery except in very rare instances. However, it should be considered in the elderly primipara, particularly if thre is any cephalopelvic disproportion and if x-ray has eliminated the presence of gross deformity of the fetius.

In regard to the management of vaginal delivery in breech presentation we find a great variation in method. Most of the larger institutions, I believe, favor a policy of conservatism, and assistance may be rendered only when it is found that the patient is unable to deliver herself. This procedure may be varied in other places until we find at the Boston Lying-In Hospital a preference for breech extraction under surgical anaesthesia as soon as complete cervical dilatation is reached. Doctor Bill of Cleveland, also is an advocate of this procedure, but I believe personally that such a plan is best reserved for those especially trained in this technic. Tentorial tears, cerebral hemorrhage, intracranial damage and asphyxia are the most common causes of infant mortality, and cord injuries are not rare. Potter stresses the fact that breech extraction differs from extraction associated with version because of three factors. These are: (1) the arms are most apt to become extended, (2) the head is extended, and (3) the head is unmolded. Also, the inexperienced operator may be mistaken in his judgment regarding the proper effacement of the lower segment of the uterus and thus undertake immediate delivery only to invite disaster to both mother and child. Doctor Potter further has stated that in his opinion the occasional operator will do best "to allow the patient to deliver herself until the umbilicus is born and then give assistance which may be needed". Certainly this is very sound advice from a very excellent authority on the subject of breech extraction.

I cannot complete my remarks on extraction without mentioning episiotomy and application of forceps to the after-coming head. These procedures are, in my opinion, of the greatest value and often are life saving. Episiotomy should be done in all cases unless the perineum is very greatly relaxed, and forceps should be applied to the after-coming head whenever any real difficulty in its delivery is encountered. This procedure is not hard and is far less dangerous to the baby than the obsolete Mauriceau maneuver with its accompanying brachial paralyses and intracranial damage.

From the foregoing remarks it will be seen that management of breech cases is a problem of major proportions and even when maternal complications such as placenta previa, toxemia and fetopelvic disproportion are removed, a very considerable risk is suffered by the child. Many writers, therefore, advise the performance of external cephalic version as a means of converting these cases to vertex presentations. I have been interested in this subjct for many years and have routinely practiced this method. A fair degree of success has been attained and I know of no case in which an accident has occurred to either mother or baby from its employment. It appears that this simple maneuver never has become popular with physicans, probably because of two facts: (1) the breech position is not recognized early enough, and (2) the procedure is not done often enough to attain any degree of skill in its performance.

Ryder advised a definite attempt to diagnose breech positions as early as possible and reported corrections of position as early as the fifth calendar month. He believed that the best time to perform external version is in the sixth and seventh months and his percentage of failure varies with the length of pregnancy. Most authorities are of the opinion, however, that the optimum time is about the thirty-second to the thirty-fourth week. Needless to say this requires that a routine checkup be made about this time and a definite diagnosis of presentation secured. When this plan is followed one is surprised to find how often a breech presentation is discovered. Of course, some of them will undergo a spontaneous version but this should not deter us in attempting rotation as soon as the diagnosis is made.

In performing an external version the patient is placed upon her back on the table and must be completely relaxed. The earlier in pregnancy the easier is the version. All manipulation should be cautious and gentle, without haste or force, and the fetal heart should be auscultated frequently. Employing the tips of the fingers the breech is raised gradually from the pelvis and an attempt is made to carry it up to the side on which the back is found. Of course, if it will not turn in one direction then the opposite should be attempted. Usually the fetus will turn best in flexion as if making a somersault, but if a very small fetus or if the patient be a multipara it may be turned almost at will in any direction. After the breech has been raised and the baby rotated almost into a transverse position, light pressure on the head in the opposite direction will cause it to slip easily into position over the pelvic brim.

In the event that success is not attained at first, subsequent attempts at other visits should be made. Indeed, when version has been accomplished we should check up every time the patient comes in to see that the fetus still is properly placed. There should be few failures in multiparas and a little practice will aid greatly in manipulation on primiparas. Not infrequently x-ray will enable the operator to succeed by showing him exactly the location of the child and how its extremities are placed. In my opinion no anesthesia ever should be used in this manipulation.

Some of the arguments advanced against this procedure may be mentioned. First, that it is not necessary because most of them will correct themselves spontaneously. Second, that they are hard to perform. Third, that it coils the cord about the infant's neck. Fourth, that it may cause separation of the placenta, premature labor, et cetera. This last may cause some apprehension in the mind of the beginner, but most of us believe that this fear is groundless since in Ryder's series of 1700 cases the incidence of premature labor was less in those cases who had external version than in those who did not. Nor was there any instance of premature separation. Another criticism, that external version is valueless because reversions do occur, is not a serious one as they may be re-corrected until the presentation remains a vertex.

On the other hand, the value of external version is considerable. A hazardous presentation may be changed to one far safer, usually with a shorter and more comfortable labor. Disproportion between the head and the pelvis can be recognized. Premature labors are less likely to occur in the converted cases and we frequently notice that these patients are far more comfortable with the baby in the vertex presentation.

In an attempt to facilitate delivery in those instances wherein external version has failed, several writers have advised the use of large bags for the purpose of stimulating pains and to assist in dilation. It is believed that the passage of the bag through the vaginal canal may of itself aid in relaxing the perineal muscles and further augment the expulsive forces. This may be true, but it has ben my experience that bags are seldom, if ever, needed in breech delivery.

In finally estimating the prognosis for the patient with a breech presentation every method of investigation should be employed. The diagnostic acumen and seasoned judgment of an experienced obstetrician is of the greatest value. In such instances the usual examination should be supplemented by x-ray study and mensuration. Here it is realized that radiologic comparison of the head and pelvic diameters is not as satisfactory as in vertex positions and we probably shall finally have to rely on the clinical opinion of the attendant.

Caesarean section is much more freely employed today than formerly and I think wisely so. Certainly there must be real indications for its use, but these may be tempered somewhat in suitable cases. In doubtful cases the patient may be allowed to go into labor under close observation. The test of labor here will be decided by the manner in which the cervix dilates. If this is rapid and unimpeded then the accoucheur will have to make up his mind as to the possibility of vaginal delivery of the after-coming head. If contractions are of poor quality, and dilation and descent are slow, or if other factors such as a history of stillbirths, advanced age or sterility appear, then certainly Caesarean section must be considered. I do not believe that breech presentation in a primipara is of itself an indication for abdominal delivery. However, it offers the best hope of lowering the fetal mortality in breech cases complicated by moderate disproportion. Such cases, in my opinion, should be treated by elective or early Caesarean section.

Before concluding I would like to present a few case reports which may serve to illustrate some of the difficulties that may be encountered in breech management.

Case 1.—Mrs. E. C. C., approximately 30 years old, Para 2, Grav 3, was seen first at home June 22, 1939. Marked edema was present. Blood pressure 150 systolic, 90 diastolic. The estimated date of confinement was June 15, 1939. She was thought to be pregnant with twins but x-ray examination showed a single fetus as a breech, in a position of extreme opisthotonus with head under the patient's ribs, and the back of head between its scapulae. External version and rupture of membranes resulted in a precipitous delivery of a living child, weight 10 pounds, 8 ounces, length 55 cm. Mother and baby at the present time are living and well.

Case 2.—Mrs. J. M. was seen first April 15, 1940, complaining of dysparcunia. Later I treated her for sterility and eventually she became pregnant. She progressed apparently uneventfully until Jan. 25, 1945, the estimated date of confinement being February 1, 1945. Due to extreme enlargement of abdomen, disability and

shortness of breath, an x-ray was taken and breech position with hydrocephalus diagnosed. She was delivered by Caesarean section of the classic type, of a female child, weight 9 pounds, 7 ounces, length 46 cm., head 67 cm. in circumference. There was an associated spina bifida. The infant lived 10 days.

A second pregnancy occurred and the patient was delivered of a healthy baby by Caesarean section December 30, 1946. Both mother and baby are living and well.

Case 3.—Mrs. S. H. Shortly after the patient in the preceding case report was delivered, one of my friends told me that he too had encountered a case of breech presentation with hydrocephalus and that he also was expecting to deliver the patient by Caesarean section. Unfortunately, the doctor, who is an obstetrician of considerable experience, neglected to study the films carefully and made the diagnosis without a report from the radiologist. The result was that a perfectly normal child was delivered by Caesarean section. The plate in question showed no sign of hydrocephalus except an elongation of the head in an anteroposterior diameter. In a real hydrophalus the head should be round, the bones thinned out and widely separated. A mistake in diagnosis can be made very easily under such circumstances.

Case 4.—Mrs. M. T. C. Hospital consultation June 25, 1946, at 3 a. m. The patient was 36 years old, white, and previously had given birth to 6 children. She had been in labor for seventeen hours and her family doctor had tried to deliver her. The membranes had ruptured, the feet and buttocks had been delivered, and the cord was prolapsed, but no further progress was possible. The fetal heartbeat had been audible until the membranes had ruptured at 1:30 a. m. Her condition was poor. A respiratory infection and a rapid pulse (160) were present. Examination showed a contraction ring high in the uterus and below the arms which were finally brought down, but no extraction was possible. The patient was treated by Caesarean hysterectomy and a stillborn dicephalic monster delivered. Its weight was 10 pounds, 7 ounces, its length 48 cm.; it was perfectly formed. The mother was Rh negative; four blood transfusions were given her and she left the hospital on the eleventh day after a surprisingly smooth course. Postpartum check at six weeks showed the patient to be in good condition.

SUMMARY

Breech presentation is a major obstetrical hazard demanding mature judgment and experience for its proper management. Occurring as it does in 3 to 4 per cent of all term pregnancies, it carries a definitely increased risk for the infant even though other obstetrical complications are eliminated in computing mortality.

The value of episiotomy and the use of aftercoming head forceps is stressed in vaginal breech delivery.

The early diagnosis of breech presentation and the employment of routine external cephalic version at the earliest possible time is advocated.

The use of early or elective Caesarean section in breech presentation in selected cases and particularly those with even a mild degree of fetopelvic disproportion is urged. Four case reports are presented.

GENERAL TREATMENT OF ARTHRITIS

The treatment of hypertropic or osteo-arthritis is much more simple than in rheumatoid arthritis, its objective being to check the growth of ridges and spurs and to stop pain. Since such growth is due to reaction of the bones to slight traumas over a period of years, the idea is to eliminate such injuries as far as possible. Many such strains are due to faulty posture, which affects the neck, hips, and knees. Overweight also causes strain. The typical hypertropic back is often the result of strain from a "sway back" posture. A tilted pelvis and flat feet mean sprung knees. Often occupational strain results in bruised fingers. Hallux valgus is an example of degenerative joint disease produced from injury, resulting from wearing too tight shoes.

The first step in treating a hypertropic joint is to rest it. In extreme cases it is beneficial to immobilize such a joint in a plaster cast for a week or more. After such a complete rest invariably the joint is painless and more movable; and as it is protected from further strain, the bony growth ceases.

Heat is always advisable in these cases, especially for older people whose circulation is poor because of arterial changes. Moist heat, if used regularly, stimulates sluggish circulation and relieves soreness and pain.

If constipation is present, it must be controlled. Two glasses of hot water with the juice of a lemon taken before breakfkast can be supplemented by cooked fruit for dessert, and apple sauce the last thing at night. Sodium phosphate has been found to help these cases, not only in elimination but in actually making them more comfortable.

Osteo-arthritis in women has been called "menopausal arthritis" because it so often appears at that time of life. Some early cases are benefited by giving them estrogens. It seems to relieve fatigue and pain, as it does arthralgia following castration.—Loring T. Swaim, M. D., in J. Indiana St. Med. Assn.

THE DIAGNOSIS AND TREATMENT OF CANCER OF THE BREAST*

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However much we may deplore the fact that the essential universal cause of cancer remains unknown, and our inability, in the absence of such knowledge, to prevent many of these malignant tumors, there are certain responsibilities arising from what we do know but do not properly utilize. The critical examination of the results in any large series of cases cannot but produce a profound impression and lead to the distressing realization of the fact that we, as a profession, are far from exact in the scientific application of much of the knowledge at our disposal. Such clinical and semi-scientific applications seem to be still lacking in the field of mammary cancer.

The early diagnosis of breast cancer is the recognition of the disease in its incipience, while it is still confined to a single area, in the vicinity of its point of origin, and before it has extended either through the lymphatics, the blood vessels or, by infiltration, beyond the borders of the mammary gland. Since the rate of growth and extension of cancer of the breast varies within such extraordinarily wide limits, the factor of time whether measured in weeks, months or years is of relatively little significance in the prognosis unless considered in its relation to other conditions existing in the individual case. The significant feature in the early recognition of this disease is not so much its duration from the point of time, as the degree of extension of the disease which had occurred during that period. Taken in this sense, few of us will deny that "early diagnosis" is by far the most significant factor in the prognosis of cancer of the breast. The early diagnosis of cancer from the point of view of time may be an impossibility, but an early diagnosis from the point of view of extension of the disease is an actual fact and an important one.

The symptoms of advanced cancer of the breast are all too familiar to need discussion. The earliest recognizable symptom almost invariably is that of a tumor in the breast. Lee recorded that in 6 per cent of his cases pain only was noted as the first symptom which attracted the patient's attention and led to the discovery of the tumor. Such a single tumor, whether painless or tender, may be cancer or it may be one of many other things, some of which are recognizable as cancer. The first finding which can be considered in any way pathognomonic of cancer is the loss of mobility of the skin over the tumor. This sign is best elicited by gentle pressure designed to move the breast upward and outward on the chest wall. There are, however, exceptions even to this rule, since traumatic fat necrosis, variants of xanthomatosis, chronic abscess, infected cysts, and even fibroadenomas may cause loss of mobility of the skin. Variations of this phenomenon, which is attributable to the shortening of Cooper's ligaments, are atrophy of the superficial fat, flattening and in more advanced cases dimpling of the skin, retraction, elevation, or displacement of the nipple otherwise from its normal position, and diminution of the size of the whole breast.

The more common conditions to be considered in the differential diagnosis of cancer of the breast can be classified as follows: (1) benign tumors (fibroadenoma and its variants such as myxoma, et cetera), (2) non-intrinsic tumors, lipoma, angioma, neurofibroma, varieties of sarcoma and the secondary lymphomatous tumors, (3) the chronic inflammatory processes such as tuberculosis, gumma and actinomycosis, (4) the acute, subacute and chronic manifestations of lactation mastitis, (5) traumatic fat necrosis and hematoma, and (6) the wide range of pathologic conditions which have been described under the comprehensive term of chronic mastitis, i.e., nodular mastitis, sclerosing adenosis, cystic disease and intracystic papilloma. Such lesions may be accompanied by acute inflammatory symptoms or may be subacute or chronic.

Many of the conditions just enumerated have such characteristic signs and symptoms that the diagnosis of their presence can be made with practical certainty on careful consideration of the patient's history and direct physical examination. A number of these diseases, however, also are recognized definitely as of precancerous significance, and the real difficulty of diagnosis lies, as a rule, not in the falure to recognize the existing noncancerous condition but in the total inability of the physician to be able to assure the patient by any form of external examination, unsupported by a biopsy, that cancer is not present also. Some of the most tragic instances of failure to cure cancer of the breast in early and favorable cases are due to the fact that an operation is undertaken for a supposedly benign condition, and the presence of cancer is recognized only after the tissues have been widely contaminated with living cancer cells.

*Presented before the 80th Annual meeting of the West Virginia State Medical Association, at Charleston, May 12, 1947.

The real problem involved in the early diagnosis of cancer of the breast is, therefore, to determine that method of performance of biopsy which will permit a gross as well as a microscopic examination of tissues under suspicion, without endangering the patient's chances of cure by surgery if cancer is present.

Delay between exploration and radical operation in cancer of the breast is to be avoided, and exploration should not be done unless and until all facilities for competent pathologic examination by frozen section (when necessary) and immediate radical operation are available. Operations on supposedly benign breast lesions should be so conducted that if cancer is found to be present, the patient shall not be deprived thereby of her chances of cure.

Carcinoma of the breast constitutes about 20 per cent of cancers occurring in women and less than 1 per cent in men. The high incidence of breast carcinoma and its associated high mortality and morbidity, if neglected, make it imperative that lesions of the mammary gland be detected and diagnosed early and without error. The physician should learn from his patient the phases of her breast development which may have influenced the growth of this gland, as well as the physiologic activity both menstrual and gestational, and any specific history which bears on the complaint. A complete history should, therefore, be obtained which should include the following salient headings:

(1) *The family history:* The presence of cancer and especially mammary cancer in other members of the family. There is a *familial tendency* to breast carcinoma which is more common than in most tumors.

(2) *The past history:*

(a) The history of breast development during adolescence.

(b) The question of trauma, nipple discharge and presence of an antecedent tumor.

(c) The menstrual history including the date of onset, the interval, duration and character of the flow, the presence or absence of dysmenorrhea, the date of the last period or the date of cessation of menstruation (and if the latter, the relation of the onset of breast symptoms to the cessation of menstruation). The existence of premenstrual pain and swelling of the mammary gland.

(d) The number of pregnancies and lactations, the duration of lactation with each child, and any nursing complications such as cracked nipple, caked breast, lactation mastitis or breast abscess.

(e) A record of previous breast operations.

(f) A record of any pelvic operations.

(g) The weight of the patient and the absence or presence of thyroid disorders.

(h) The administration of estrogens, the date of beginning of treatment, the duration of treatment, the mode of administration, the product used, and the single and total dose given.

It is the practice of the author to advise the patient not to indicate whether both breasts or a single breast is involved. The examination of both breasts will be more careful and thorough if the physician does not know the exact site of the trouble. If he does know the side of involvement, the opposite breast should be examined first to determine, if possible, the degree of normality of the breast. It is well also to remember that patients with minor breast ailments often are definitely relieved when adequately reassured concerning the presence of cancer or when convinced that it is absent because of the thoroughness of the examination. But optimism and cheerfulness should in no way camouflage an inaccurate or hastily made diagnosis.

(3) *The physical examination:* Inspection of the undraped thorax is carried out with the patient in a sitting position. In turn the skin, the nipples and areolae, the breasts, the axillae, and the infraclavicular, supraclavicular and cervical regions are examined. The skin in the inframmary sulcus should not be neglected. Discoloration, dimpling, ulceration, edema, fixity and the presence of cutaneous or subcutaneous nodules should be especially noted. Dimpling of the skin may be brought out by elevating the breast, by gentle digital compression or bv hyperextending the arm.

The condition of the nipple and areola next should be noted: if bivalved, whether from congenital or acquired inversion, "sticking" or retraction. Any difference in elevation should be looked for as well as any deviation in distance from the midline.

The comparative size of the two breasts should be ascertained (the right breast in right handed women usually is smaller and vice versa). Any difference in symmetry should be noted. Any dif-

ference in the size of the arms should be looked for.

The tumor itself is palpated with the patient seated and recumbent. Only experiences teaches the individual characteristics of each tumor. In short, the clinical opinion always should be checked by a microscopic diagnosis. The following salient findings should be recorded about each tumor: size, discreteness, consistence, mobility.

The axillae and the infraclavicular and supraclavicular fossae then should be inspected and palpated for enlarged lymph nodes. The axilla is palpated best by the examiner sitting in front of the patient, holding the left arm of the patient on his left arm, and palpating the armpit with the right hand. The procedure then is reversed. Supporting the arm in this fashion completely relaxes tension of the pectoral muscles. Gentleness is extremely important. At least 80 per cent of enlarged palpable nodes contain cancer microscopically; 20 per cent of the impalpable ones contain cancer microscopically. Node metastases are present in at least 75 per cent of the cases in which skin fixation is present. (Transillumination will be discussed under the section on discharge from the nipple and the mode of treating it, especially the surgical care of the bleeding nipple).

Next, a roentgen survey should be ordered. Since the presence of systemic metastases precludes radical surgery for breast cancer, each patient should have a chest film made which should include the upper humeri, and a lumbar spine and pelvis film in which the upper ends of the femora should appear.

BIOPSY AND ASPIRATION BIOPSY

A definite pathologic diagnosis is a prerequisite to radical mastectomy. Surgical biopsy, with which all of us are familiar, should be performed in the operating room and with strict operating room technic.

Aspiration biopsy (originally practiced and described by Martin and Ellis) has a definite place in the diagnosis of mammary lesions. Its use often dispenses with the time consuming method of formal biopsy. Often, it is carried out in the office or prior to taking the patient to the operating room. In our hands aspiration biopsy is completely diagnostic in about 85 per cent of cases. However, the success of the procedure is predicated on two main theses: (1) the sympathy and experience of the pathologist with the method, and (2) the integrity of the biopsy, that is, the expertness with which it is performed. Aspiration biopsy is not a procedure which will produce satisfactory results simply by going through the motions. Its success is proportionately dependent upon the intelligence which directs the puncture and maintains suction on the area under suspicion.

The method of aspiration biopsy is, briefly: An area of skin over the tumor is prepared and anesthetized. A small puncture is made in the skin with a bayonet-pointed scalpel. An 18 gauge needle, snugly fitted on a 20 cc. Record syringe is introduced through the puncture wound into the tumor. Negative pressure is maintained constantly as the needle is introduced in several directions into the tumor. Then the pressure is released before the needle is withdrawn. The contents of the needle or the tissue sucked into the barrel of the syringe is smeared on a slide, fixed, stained and mounted. Occasionally, enough material is obtained to form a tissue clot which can be fixed, sectioned and stained.

Aspiration biopsy not only will aid in diagnosing cancer but will be therapeutic as well for simple cysts. The same method will demonstrate pus, liquified fat, and the red cells found in the serosanguineous fluid of a papillary cystadenoma.

THE BLEEDING NIPPLE

Serosanguineous and sanguineous discharge from the nipple may occur spontaneously or may be obtained only by pressure over the breast. There is no other breast symptom which will provide such a compelling urge for consultation with the doctor. It may occur with or without a visible or palpable tumor. Nature in this instance has placed fear in its proper perspective with relation to actual conditions, for bleeding from the nipple in a large proportion of cases may be due to a benign or an early precancerous lesion and in a smaller proportion to an already well defined mammary cancer.

A bloody discharge from the nipple of a nonlactating breast occurs as an initial symptom in about 6 per cent of cases, but as an initial symptom of cancer of the breast bleeding was first noted in less than 2 per cent of 1,000 cases. The situation may be clarified by the following comments. The presence of a bloody, or a modified bloody discharge from the nipple is not an entity in itself. It may not be a symptom of any particular alteration in the mammary gland. Above all it is to be considered a symptom, sometimes the only symptom appreciable of disease of the breast. A thin blood-tinged discharge has been regarded by many as an indication of duct

papilloma, a frank sanguineous discharge as an indication of cancer, and a darker discharge as an indication of duct stasis. All surgeons have agreed that the most frequent cause of bloody discharge from the nipple is the presence of a duct papilloma.

In the majority of cases where a benign lesion produces a bloody discharge it is found within or near the areolar border. Over 50 per cent of benign lesions of the breast producing sanguineous discharge are within the confines of the areolar border, about 45 per cent are in the zone adjacent to the areola, and about 2 per cent are located in the periphery of the breast.

Transillumination does not permit a differentiation between a benign and a malignant tumor, but will distinguish betwen a solid tumor and a cyst containing clear fluid. If a fluid is bloody or dark brown, the tumor will be opaque. It will lead to the location of duct papilloma, cystadenomas and cystadenocarcinomas. Bloody discharge from the nipple may occur without any tumor appearing in the breast or may be the precursor of a visible or palpable lump. This clinical procedure consists in placing behind the breast a cold electric lamp and viewing the light transmitted through the breast, in a completely darkened room. *This examination must not be considered completely diagnostic.* It is a valuable adjunct in arriving at a clinical diagnosis, leading to the localization of those solid tumors which occur in or near a duct in the breast. It will determine whether the bleeding arises from a single area of disease or from multiple tumors and may demarcate the duct from which blood escapes. The information obtained may determine whether limited or more extensive surgery is necessary to eradicate the cause of the bleeding.

The mere presence of bloody discharge from the nipple offers no presumptive evidence as to the exact type of the lesion. Bleeding, when present, is not of value as a differential diagnostic point. It is a warning sign of a malignant lesion or one which frequently terminates in cancer. In cases of bleeding nipple aspiration is of little value.

Bleeding is of more significance as a warning symptom in a diffusely nodular breast than in a localized one. When bleeding is present, simple mastectomy usually is the best treatment.

Over half of the bleeding nipple cases may be cured by the simplest type of surgery. Local surgery of this sort is *an important prophylaxis against cancer of the breast.*

Coming more definitely to the question of what course should be followed in a case of bleeding breast, such cases may be divided into those with a tumor, whether demonstrated by palpation or transillumination, and those with no demonstrable tumor. In cases in which a tumor is present there is no alternative. Every benign tumor should be removed lest it become malignant. Bleeding should not, of itself, stampede one into performing a radical mastectomy or even a mastectomy unless there are multiple lesions or other conditions present which would, of themselves, call for mastectomy even though bleeding were not present.

In the bleeding breast with no demonstrable tumor it is exceedingly difficult to determine the best procedure. A safe line of attack would be to prove the nature of the process and, having once determined it, to proceed with local or general surgery as indicated. If no tumors can be demonstrated the safest conservative surgical procedure is simple mastectomy.

CRITERIA OF INCURABILITY

Of the commoner malignant tumors mammary carcinoma has the greatest tendency to widespread dissemination. As Doctor Ewing often was heard to remark: "In breast cancer the sparks fly early and wide." Dissemination is by way of the blood stream, or by lymphatic embolus, or, much less frequently, by permeation. The lungs, the pleura and the bones are most frequently involved, with the liver, the brain, the peritoneum, the adrenals and the ovaries next. There are also bizarre forms of metastases from breast cancer. Late recurrences, or metastases, even thirty-two years after mastectomy, may take place. Although we are prone to look upon five year survival patients as cures, 11 per cent of patients with mammary carcinoma succumb to this disease in either their seventh or eighth postoperative year.

Over 12 per cent of the patients when first seen have passed the stage where radical surgery offers the slightest chance of cure. If we enumerate the reasons for inoperability, then all other cases of cancer of the breast fall into the operable group. Any one of the following findings places the patient in the group of cases in which surgery is useless:

1. Distant metastases.
2. Inflammatory carcinoma.

3. Metastases to the supraclavicular or cervical nodes, either on the same side or contralaterally.
4. Contralateral axillary metastases.
5. Fixation of the tumor to the chest wall.
6. Diffuse cutaneous metastatic nodules.
7. Multiple malignant mammary lesions.
8. Lesions already diffuse or infiltrating.
9. Diffuse edema of the breast and skin.
10. Secondary extension into muscle or skin.
11. Edema of the arm.
12. Bulky axillary metastasis.

RADICAL OPERATION FOR CARCINOMA OF THE BREAST

For over half a century radical mastectomy has been accepted as a completely standardized operation. The rationale of the procedure is predicated not only upon a through knowledge of surgical principles and technical attack, but upon a well founded comprehension of cellular histopathology, pathologic anatomy and physiology. The purpose of the operation for the attempted cure of mammary cancer is (1) to remove the entire breast with a sufficient margin of skin, (2) to exrcise the pertinent subjacent fascial planes, (3) to provide ample exposure of the axilla for thorough axillary dissection, and (4) to allow complete closure, when possible, in such a manner that the resulting scar will not prevent complete abduction of the arm. While closure of the skin without recourse to skin grafting is desirable, it is not always feasible. The resulting line of closure should not leave the patient with disabling or contracting scars.

PATHOLOGY

In 1930, Ewing divided cancer of the breast into three main groups: (1) *adenocarcinoma,* arising in cysts, ducts or sweat glands, (2) *duct carcinoma,* which arises from the lining cells of the ducts, and (3) *acinar carcinoma,* arising from the acinar epithelium. At once it will appear that this classification is all too simple. When the disease is fully established one may discover all three histologic appearances in the same breast, making it impossible to say which is the primary condition. Besides, the classification fails to take into consideration the clinical varieties of breast carcinoma, i. e., colloid carcinoma, scirrhous carcinoma, medullary carcinoma, "cancer en cuirasse", inflammatory carcinoma, Paget's disease and the cancers arising from duct papillomas.

Ewing modified and elaborated his pathologic classification of mammary carcinoma but still was dissatisfied with the pathologic classification of mammary tumors. A more satisfactory one has been formulated recently by Stewart and Foote.

HISTOLOGIC CLASSIFICATION

I. Paget's disease of the nipple.
II. Carcinomas of mammary ducts.
   a. Non-infiltrating
      1. Papillary carcinoma.
      2. Comedocarcinoma.
   b. Infiltrating
      1. Papillary carcinoma
      2. Comedocarcinoma.
      3. Carcinoma with productive fibrosis.
      4. Medullary carcinoma with lymphoid infiltrate.
      5. Colloid carcinoma.
III. Carcinomas of mammary lobules.
   a. Non-infiltrating.
   b. Infiltrating.
IV. Relatively rare carcinomas.
   1. So-called sweat gland carcinoma.
   2. Intracystic carcinoma.
   3. Spindle cell carcinoma, "adenosarcoma".
   4. Adenoid cystic carcinoma.
   5. Carcinoma with osseous and cartilaginous metaplasia.
   6. Squamous carcinoma.
   7. Malignant variant of fibroadenoma and cystosarcoma phyllodes.

VALUE OF X-RADIATION AS A SURGICAL ADJUNCT

In 1942, Adair reported before the Surgical Section of the American Medical Association our results in the Breast Department of the Memorial Hospital in the treatment of cancer of the breast. Seven thousand four hundred nineteen cases were reviewed and of these 3,535, or 47.6 per cent, were considered in the operable group. However, there were only 1,383 cases in which the pathologic condition was known as well as the details of the five year end result.

Surgery Alone.—Of the 194 cases treated by surgery alone (a highly specified group), the five year salvage was high, the axillary involvement low, and the age group relatively older. These observations emphasize the point that selectivity is proper if the end results show a high degree of success. In cases in which no axillary nodes were involved, over 74 per cent were alive and well at the end of five years. In those cases in which there was axillary involvement 47 per cent survived, a rather high figure. As Adair states: "This figure immediately brings the "surgery alone" group under suspicion and emphasizes the point made by inference that any surgeon can select his patients; but what happened to

those who were operable with rather bulky axillary disease and who were rejected for operation and sent to the radiation department for cure? Investigation shows that irradiation failed to cure them."

Preoperative X-Radiation with Surgery.—Preoperative x-ray therapy to be followed by radical surgery has many devotees. Theoretically it should be of decided value. Of 582 patients so treated 236 had no axillary involvement and 69 per cent survived five years. Of 337 who had axillary involvement 35 per cent survived. The overall survival figure of this group was 49 per cent.

Surgery with Postoperative X-Radiation.—Of the 277 patients treated by radical mastectomy followed by x-ray therapy, 95 had no axillary involvement. Of these, seventy-three or 77 per cent survived for five years. Of 177 having axillary involvement, 74 survived, giving a 42 per cent five year survival rate. These figures are of prime significance, pointing to a higher percentage of salvage than that of those with preoperative radiation, and emphasizing the point that irradiation in those cases having axillary involvement is of decided advantage.

X-Radiation Only.—It has been felt by some radiologists that external x-ray therapy, given properly, should be of decided benefit in controlling mammary cancer. Such has not been our experience, but we have found that it may be possible by high voltage irradiation to affect the five year survival rate. Of 182 patients so treated, 24 per cent survived five years. However, this figure certainly compares unfavorably with the figure for surgery alone or with that for postoperative irradiation. Roentgen therapy alone for the treatment of breast cancer is not the desirable method.

Some surgeons now are advocating simple mastectomy with radiation therapy given to the axilla. This seems a method of futility based on poor results from the radical operation. Since over 50 per cent of the patients have axillary involvement, external radiation should not be relied on to sterilize the axillary disease. However, because of age, poor surgical risk, or the apparent absence of axillary disease, there were 97 cases in which simple mastectomy was done. Fourteen were treated with surgery alone, and 10 (71 per cent) survived. Fifty-three had preoperative irradiation followed by simple mastectomy with 28 (53 per cent) five year survivals.

Fred Stewart, in reviewing the above statistics, pithily stated: "In American literature there are two groups of figures which are drawn from very large numbers of cases. One of these comes from Harrington's cases at the Mayo Clinic; the second, from Adair's cases at Memorial Hospital. The question is, do these reports, based on thousands of cases, show a follow-up percentage which is such that the figures as stated may be considered statistically reliable? Harrington reports as follows: "Five year results of surgery alone in the absence of axillary metastases—69.8 per cent survival in 494 traced patients; in 604 traced cases with axillary metastases, surgery alone yielded 24.3 per cent of five year survivals. Surgery plus postoperative radiation gave a five year survival rate of 72.8 per cent in 592 traced cases without axillary metastases, and surgery alone in a similar group produced five year survival in 28.8 per cent. This suggests a survival difference of both groups of 3 to 4 per cent in favor of radiated cases. Harrington's series is not open to the objection of overbalance of numbers of patients in any one category. Adair's series, though large when one surveys the initial figure of 12,751 patients with 7,419 mammary cancers, after it is broken down into the figures we would like to have, is surprisingly small. There are available for analysis 582 patients with operable carcinoma treated by preoperative radiation followed by radical mestectomy. Of these cases 236 had no axillary disease and 69 per cent survived five years. This compares with Harrington's figure of 69.8 per cent with surgery alone and surely offers no evidence to support a program of preoperative radiation in this group. Three hundred thirty-seven patients had axillary involvement and with the same program of preoperative radiation and radical surgery yielded a survival rate of 35.3 per cent as compared with Harrington's 24.3 per cent with surgery alone. Now that is a large difference. Harrington traced all but 45 out of 649 cases. Adair's determinate group consisted of only about two-thirds of his total number of cases. It is, perhaps, interesting to note that his five year survivals are about one-third more than Harrington's.

"After reviewing Adair's results the only thing I can say is that his five year survival rate probably is high, but how high I cannot say, and why, I cannot tell. In terms of benefits derived from preoperative or postoperative radiation it tells me nothing."

CONCLUSION: A PLEA FOR RADICAL MASTECTOMY

Despite all that has been said and written on the subject of breast cancer, the yearly death

rate from this disease in the United States continues to increase along with cancer in general.

Every breast cancer had existed for a considerable period of time before it was discovered by the patient. This could have been due to a number of factors, for instance, the size of the breast, whether there was a distinct lump or a diffuse infiltration, or the degree of intelligence of the patient. Does she examine her breasts for abnormalities or does she pay no attention to such things? Does she have a periodic check-up for "cancer detection"?

Taking into consideration the fact that cancer has existed for a varying period of time before its discovery, and that the majority of breast concers metastasize early, it becomes very evident that to reduce mortality, radical mastectomy must be performed as soon as the lump discovered is proved to be cancer.

The grade of malignancy cannot be determined preoperatively, and axillary nodes which are involved frequently cannot be detected preoperatively. Once the cancer has reached the axilla nothing short of radical mastectomy can effect a permanent cure.

To reduce the yearly death rate from breast cancer, a large percentage of the public must be educated, a routine breast history and examination must be done on every woman regardless of the complaint, and every breast abnormality should be referred without delay to a competent surgeon. There remain, unfortunately, physicians who advise against surgery in breast tumors or who watch them until the disease is advanced. Some doctors not trained in surgery are willing to do a simple excision or a simple mastectomy and then depend on irradiation to do the rest. Roentgen therapists still exist who treat operable breast cancer with x-ray to the exclusion of surgery. If the facts were known, we probably would find all too few surgeons who perform radical mastectomy in any figure approaching 100 per cent of their cases of breast cancer.

Until it is realized that there is no time for delay in the treatment of any breast tumor, and until radical mastectomy is more universally employed in breast cancer, little advance can be made in combating this disease and in increasing the number of five year survivals.

Dr. Herbert Katzin, head of the Eye Bank Laboratory in New York. estimates that some 1,500 persons are now wearing living eyes that did not belong to them at birth. The Eye Bank trains surgeons from all over the country in perfecting the technique of transplantation.—R. N.

BUREAUCRATIC CONTROL OF MEDICINE*

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Tonight you have come together to celebrate the 80th anniversary of your state medical society. You have had occasion to recall with pride the notable advances made in medicine during these eighty years. One month from tonight your parent organization, the American Medical Association, will celebrate a century of achievement. Probably few persons would challenge the statement that the United States today stands preeminent in the field of medicine. Standards of medical education, outstanding contributions in medical research, and easy availability of health and medical services to the major portion of the population place the United States in a unique position among the countries of the earth. We have more physicians per unit of population than any other country in the world. Our health indices for comparable population units are not surpassed by those of any other country.

In the face of these facts, how can we account for the persistent efforts which are being made to destroy the American system of medical education, medical research, and medical practice? What justification can be found for the propaganda which has flooded the country, especially during the past decade, in support of a revolutionary upheaval in the entire system of American medicine? What is offered in lieu of what we have?

These questions are not difficult to answer. First of all, we are asked to exchange freedom of action by patients, physicians, and institutions for the despotism of bureaucracy. Secondly, we are asked to adopt an old-world system of government medicine which is not known to have succeeded anywhere, but which nonetheless is loudly acclaimed by those who would gain power were such a system established in this country. Thirdly, justification for this proposed revolution is found in the purposely misleading "research" documents which are disseminated by governmental and nongovernmental lobbies with a view to shaping the opinions of Congress and of the public in favor of a medical system controlled and financed by the federal government.

How has such a situation come about? Are the politicians to blame? Not directly, for they

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**The views expressed are those of the writer and not necessarily those of any member of the Senate Committe on Labor and Public Welfare.

are not the planners and prime movers. I believe the danger lies not in political, but in bureaucratic medicine. The two are not synonymous. Neither the President nor any member of Congress has the time or the professional competence to draft the complex legislation dealing with government control of medicine. A politician could not, if he would, write rules and regulations for administration of a comprehensive national health program. It was not politicians who initiated the lobby for nationalization of medicine. It was not politicians who drafted the blueprint. Instead, it was a small group of federal officials who made the plans, wrote the legislation, supervised the lobbies, issued the publicity, and made elaborate studies of the rules and reguations in foreign countries preparatory to drafting similar administrative regulations for the United States.

There are those who, oblivious of the signs of the times or perhaps secretly in favor of them, will tell you that all is well and that there is nothing to fear. The nationalizers encourage this feeling of complacency even as Hitler duped Chamberlain. It is ever easier to be unalarmed than it is to face painful realities requiring action. I realize that enactment of federal legislation for national compulsory sickness insurance is not a threat this year. But I call your attention to the fact that within the government at Washington propaganda for compulsory sickness insurance still is going on. Private lobbies still are active. Nor can we forget that compulsory legislation has been enacted in other countries not because of popular demand or even with the consent of the people, but as a result of the activities of small, well organized groups, all of which are following the same international blueprint.

We have before us the example of Great Britain where, since enactment of the National Social Insurance Law of 1911, medicine has felt increasingly the heavy hand of bureaucratic control. It takes several decades for the destructive processes inherent in national social insurance fully to be felt. It takes more than one generation of physicians reared in an environment of regulative interference for the profession to feel the complete effect of government domination of medical education, research, and practice.

Some years ago the Lord Chief Justice of England wrote a book entitled "The New Despotism". He described the administrative lawlessness visible throughout the executive departments in Great Britain. Noting that it was the officials in the government departments who initiated the legislation by which arbitrary powers were conferred upon them, he said:

> "Arbitrary power is certain in the long run to become tyranny, and there is danger, if the so-called method of administrative 'law', which is essentially lawlessness, is greatly extended, of the loss of all those hardly-won liberties which it has taken centuries to establish."[1]

In discussing the mischiefs of bureaucracy, he pointed out that the excellence of the Civil Service might actually work against the public interest to a greater degree than a bureaucracy of less able experts. For, as the Lord Chief Justice pointed out, ". . . it may perhaps be well to remember that high capacity and ardent zeal need to be more carefully watched than when they appear to have entered with all their might upon a wrong road. It does not take a horticulturist to perceive that, if a tree is bearing bad fruit, the more vigorously it yields, the greater will be the harvest of mischief."

Lord Hewart warned that "if there were any great extension of the system of giving uncontrolled and arbitrary powers to public officials, it is as certain as that night follows day that corruption must creep in. We shall then be cursed with the corrupt bureaucrat. The bureaucratic despot we already have."

To illustrate his point, Lord Hewart said: "the treatment of the panel doctors under the National Health Insurance Acts is pure despotism. The doctors are liable, at the mere discretion of the official who acts for the Minister of Health, to be ruined professionally by being struck off the panel, or, as a lesser punishment, to be fined to an arbitrary extent. In one instance, a fine of £1,000 was imposed on two doctors who carried on business in partnership. 'Excessive prescribing', an offence wholly unknown to the law, which consists in prescribing for the patient medicines that are either too expensive in quality or too liberal in quantity, is one of the things for which a doctor may be penalized. One might think that, for a person who is bound by law to insure and pay contributions under the [Health Insurance] Acts, the best medicine ought to be prescribed in illness. One might also wonder whether, in this matter, the interests of the patients are taken into consideration at all."[2]

It has been well pointed out by an Australian that "there is no penalty for under-prescribing, no penalty for under-certification, no penalty for undertreatment – a cynical disregard of the welfare of the patient, which is further illustration of the fact that the government's interest in the whole matter is purely financial."[3]

The rules and regulations for compulsory sickness benefits are well established, and if a Wagner-Murray-Dingell bill were to be enacted in this country I surmise that the administrative regulations would not deviate to any great extent from those which have been developed in other countries. The problems of health insurance administration have been wrestled with for upwards of 65 years in different parts of the world. Human ingenuity in over 30 countries has had the fullest opportunity to discover workable methods, if there are any. No country has even approached a satisfactory solution to the problems. Administration becomes more cumbersome each year. Sickness and the vagaries of human nature refuse to be neatly pigeonholed. By the time the British scheme had been in operation 20 years, there were over 2,000 regulations in force to plague physician and patient alike. Before three decades had passed it required a volume of nearly 1,300 pages in length to cover the basic health insurance laws and amendments thereto, the government rules and regulations, the official interpretations thereof.[4]

It is obvious that if the federal government is to pay for medical care, for hospital services, for prescriptions, for nursing, dental, x-ray, laboratory, and a host of other services, the government must define the services. If it attempts to pay a physician on a fee-for-service basis, it must pay specified amounts for a given number of minutes of a physician's time and must allow for overtime. The administrative difficulties of fee-for-service are so insuperable that no person familiar with them believes the government could or would operate on that basis. Indeed, one of the leading advocates of compulsory sickness insurance, Dr. Ernest F. Boas, chairman of the Physicians Forum, Inc., has frankly stated:

> "Insurance guaranteeing complete medical coverage cannot be set up except at a prohibitive cost, if the fee-for-service principle is retained."[5]

If the capitation system is adopted, the physician holds the bag. The government makes the promises; the physicians carry them out. However unreasonable the promises may be, the physician must somehow contrive to fulfill them if he agrees to become an insurance practitioner. He must contract to accept some nominal amount, say $5, $6, or $7 a year (it is $2.25 in Great Britain) for each person on his list. He must give to those patients all the services they demand and the government promises. In other relationships in life when a contract is made both contractors know in advance what is being agreed to. But when a doctor makes a contract with the government under compulsory sickness insurance he is making a blind date with fate. The government can and does change the rules of the game whenever it sees fit. It can re-define services; it can lower capitation rates; it can tell a physician when he may or may not send a patient to a hospital; it can call a physician on the carpet for "over-prescribing"; it can issue punitive regulations and can fine physicians for infringements of the endless regulations which must be issued in the vain attempt to regularize medical practice.

The administrative patterns of bureaucratic medicine follow the same general plan in all countries. Federal officials in Washington have for years been studying the classic volumes on administration published by the International Labour Organisation and by the governments of foreign countries. The basic text is the volume entitled "Economical Administration of Health Insurance Benefits" which was published at Geneva by the ILO in 1938. The first part is devoted to a lengthy discussion of the Principle of Economy in Administration, the second to *The Principle of Economy in National Laws and Regulations*, the two together requiring some 300 pages.[6] The volume is replete with statements and statutory provisions designed to curb the freedom of action of physicians and patients. *Economy of administration* is the watchword of insurance medical practice. You will note the frequent inclusion of the "economy" principle in the W-M-D bills. The insurance practitioner at every turn must say to himself: "Which of these two procedures or drugs is the cheaper; which will save the insurance funds" instead of saying: "Which is better; which will save the patient." He must be ever mindful of the funds, ever subservient to the federal *insurance* inspector, ever on the defensive to justify his professional decisions and to defend himself against charges of real or fancied infringements of government regulations.

To illustrate a general principle regarding doctor-patient relationship under government insurance practice, I quote from the ILO text to which I just referred. In the chapter devoted to "The Application of the Principle of Economy to Diagnosis", there appears this statement:

"If a private practitioner recommends some necessary form of a diagnosis to his patient and the patient declines to have it, either because it is physically repugnant to him or because he finds it too expensive, the doctor can, if his pro-

fessional conscience permits, console himself with the thought that he has given the best possible advice. The insurance practitioner, on the other hand, must urge the insured person to follow his advice as regards diagnosis. If the patient still objects, the doctor must consult the medical adviser of the insurance institution or send his patient to a hospital, because otherwise the necessary measures for diagnosis, prevention or cure will be applied without sufficient preparation and will therefore not be truly economical."[7]

In carrying out this principle of economy, the law in Germany required that "The attending practitioner must prove the necessity of hospital treatment in writing." "Economical treatment" was defined in the law, and the practitioner was adjured in carrying out his duties to "save the fund expense as far as the nature of his services permits." The government inspectors and tribunals were the final arbiters as to whether or not a physician had been sufficiently solicitous of the insurance funds.

Since an insurance practitioner is liable for losses incurred by the insurance fund if he fails to compel the patient to follow his advice, and since he may be hailed before a tribunal to defend subsequent demands on the insurance fund in the event that a headstrong patient adopts a course which later leads to expensive treatment costs, the practitioner in Germany is authorized by law to send a patient to the hospital without the patient's consent. The law states: "The consent of the sickness fund must be obtained before admission to hospital except in urgent cases." The patient's consent is not required if, *inter alia*, "the patient repeatedly disregards the doctor's instructions or the rules for the conduct of patients."[8]

With respect to prescribing by insurance practitioners, we find these principles and rules enunciated for the German scheme:

"The sickness fund has to prepare data enabling the Insurance Practitioners Association to control excessive prescribing by means of the standard cost of prescribing. For this purpose the cost of prescriptions per case is calculated for groups of practitioners and for each individual practitioner.

"The I. P. A. also checks the cost of prescribing medicines and minor appliances. If this cost exceeds the so-called standard cost of prescribing, the doctor can be made liable for part of the excess.

"The standard cost of prescribing is fixed in a national agreement between the I. P. A. and the central federations of sickness funds of 18 March 1938 and represents the average amount per case treated, which as a rule is not exceeded in the economical prescription of drugs and appliances."[9]

Under insurance practice the federal policing of the system would be accomplished through a special medical supervisory department under the direction of a chief medical referee, if the usual pattern were followed. In Germany there was one full-time medical referee for every 25,000 insured persons. In the United States that would mean an army of 5,600 federal medical referees to police the system. In each district office there would be supervisory committees and subcommittees for special questions. In addition, there are pricing bureaus to check individual prescriptions. There would be about 700 pricing bureaus in the United States, and these would cooperate with the accounting officers of the Insurance Practitioners Association.

In policing the insurance system to assure that all practitioners are abiding by the economy principle, which is the *sine qua non* of insurance practice, the IPA accounting office keeps statistics on the number of cases treated by each general practitioner and specialist and on the number and cost of prescriptions. When the insurance fund files a claim against a physician who is suspected of over-prescribing "the practitioner's average case expenditure for the quarter of the year under review" is computed. If this expenditure is in excess of the standard cost of prescribing, a claim for damages is submitted. "The standard cost of prescribing per case treated is fixed in the national agreement for the whole country."[10]

I have given these detailed illustrations to show a few of the ways in which American medicine would come under bureaucratic control if compulsory sickness insurance regulation were enacted. The real threat lies not so much in the basic law but in the subsequent rules and regulations which, while not enacted by Congress, would yet have the force of law. This would be the new despotism of which you have had a foretaste in the regulations issued by the Children's Bureau, the Social Security Administration, the Federal Security Agency, and the Public Health Service. However, the grants-in-aid programs of these agencies do not begin to carry such administrative powers as does a compulsory program.

If there is anyone here tonight who thinks there is little likelihood of enactment of federal compulsory sickness insurance legislation, I ask him to look at the record of the past ten years. Within the framework of the Social Security Administration you have seen created in the Bureau of Research and Statistics a Division of Health and Disability Studies. Such compulsory legislation as the health and medical titles of the W-M-D bills has been written in that bureau. The amount of propaganda for compulsion that has emanated from that bureau is staggering. "Research" memoranda, speeches, reports, radio addresses, and statistics are prepared in, and circulated by the bureau. Voluntary methods are damned; compulsion extolled. The opinions of welfare groups similarly are shaped. The propaganda machine works ceaselessly, on the accepted theory that if a thing is said often enough people will believe it.

During the past twenty years we have seen the strengthening of propaganda groups. There has been a studied policy of misrepresentation as to what a federal health program would involve. The question of costs has been almost completely by-passed. I do not recall having seen any frank and open discussion of the degree of regimentation of patients, physicians, and institutions that would inevitably result. The compulsory program is seductively presented to the public and to Congress as one that would provide "the best modern medical care" with only slight changes in the organization of medical practice and at almost no additional cost. If the federal officials who drafted the successive W-M-D bills were to reveal to the public and to Congress the true and inescapable characteristics of a compulsory scheme, I doubt if there would be any support for this type of legislation in Congress, by organized labor, or by the public at large. Only through gross misrepresentation can the scheme be sold. And it is undeniably being sold.

Last year the Railroad Unemployment Insurance Act was amended so that railroad employees should receive liberal cash benefits for nonoccupational sickness and accidents and for maternity. The law which goes into effect on July 1 this year, unless the amendments are rescinded, is dangerous inasmuch as it is based on the extraordinary principle that the employer is financially responsible for nonoccupational sickness benefits. The employees do not pay taxes, but receive the benefits as a form of selective private charity deceptively called "social insurance." If those benefits go into effect we may expect demands from all other groups of employees for similar charity at the expense of the employers or of the public. Nor is that all. The "free" sickness insurance benefits inevitably will be followed by public medical care, financed from general or special taxes and controlled by the federal government.

Last year another law was passed which may have seemed remote to you. It was an amendment to the Social Security Act giving unemployment compensation to maritime workers. At the same time an effort was being made to establish sickness insurance for the same group, the idea being to bring these workers into the Social Security System of the United States, and then through the ILO to agitate for cash sickness and medical care benefits for this particular group as a prelude to similar agitation for all workers.

As most of you know, the United States became a member of the International Labour Organisation in 1934, at the instance of former Labor Secretary Frances Perkins. At the same time President Roosevelt appointed a Committee on Economic Security to draft social security legislation along the lines prescribed by the ILO for member nations. The Social Security Act of August 1935 was the first tangible evidence of our national move to the left. That act followed the socialist line. Parenthetically, I might say that the ILO principles are now nearer to communism than to socialism. How closely our legislative proposals are hewing to the ILO is indicated in the language and definitions used. For instance, some of you were concerned recently when Dr. Vane M. Hoge, chief of the Division of Hospital Facilities in the Public Health Service, made the statement that the Hospital Construction Act "reflects the current concept that public health includes responsibility for the treatment and care of the individual."[11] The ILO already had proposed in 1944 that the term "health service" shall comprise "both medical and general [i. e. public] health services."[12]

In 1927 the ILO published a volume on sickness insurance laying down the principles which we are adopting one by one in this country. In 1938 it produced the volume on administration of sickness benefits to which I have already referred. In 1944 it brought the medical principles up-to-date in still another volume. The provisions, language, and social philosophy of the 1944 ILO report are so like the 1943 W-M-D bill that one may surmise the same person had a hand in drafting both. Here are a few of the principles selected at random. What a familiar ring they have! Thus, the cost of the combined medical

care and public health service program must "be borne collectively by all members of the community". The communist principle of "to each according to his need, from each according to his means" is exemplified in the recommendation that each member of the community should pay into the insurance fund according to his ability and receive from the government "comprehensive care" of "unlimited availability." The rational organization of medical care services calls for group practice in government owned and operated, or government controlled, health centers. "In Russia," so the ILO reports, "the medical care service is based on such centers."[13] The "draft schemes and plans" and the ILO "almost unanimously, advocate and encourage some form of group practice" at such government centers. As to "freedom of choice", the ILO states:

> "The right of the patient to choose his doctor in each case of illness, according to what appears to him most appropriate or desirable, is therefore no longer compatible with the modern approach to the health problem."[14]

Finally, I would point out that the ILO admits that "The capitation fee system suffers from the fundamental defect that doctors receive an income inversely proportionate to the amount of work involved or given." To get around that difficulty, the ILO proposes a basic salary augmented by capitation fees, or, alternatively, a full-time salary. In 1944 the ILO stated:

> "A salary system is actually in force in Chile, Peru, Costa Rica, and Russia, and its introduction is proposed in the plans of the South African Medical Association, the Parliamentary Committee on Social Security and the National Health and Medical Research Council of Australia, and the Labour Party and the Socialist Medical Association of Great Britain."[15]

The socialist program of the ILO is slowly but surely prevailing in Great Britain. Early this month the report came from London that the national health service will start in England and Wales in about a year. Hospitals and their endowments will become the property of the state. Great Britain's 20,000 general practitioners and thousands of specialists, nurses, dentists, pharmacists, and other health personnel will be given a chance to decide whether or not they wish to become servants of the state. The medical profession has won a few weak concessions. Its original show of a united front against state control appears to have given way to a policy of appeasement. A physician no longer will have his private practice; practices will belong to the state.[16]

In the light of this steady progress of state medicine in one country after another, and in the light of our national commitment to follow the socialist, if not the communist, line of the ILO, I shall conclude with this question: Do you wish to adopt the plan for the nationalization of American medicine which has been developed by the Social Security Administration or do you wish to take the necessary steps to rid the federal government of those who are actively engaged in collaborating with foreign organizations which are working for the extension of socialism and the destruction of private enterprise, including the American system of medical practice?

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STREPTOMYCIN

The exact place that streptomycin will occupy in the treatment of infections, particularly tuberculosis, cannot be predicted at this time. Its greatest disadvantage has proved to be the great ease wtih which resistant strains become established during the course of treatment. This alone may eventually limit, if not entirely vitiate, its usefulness in tuberculosis and in other infections, particularly those whose courses tend to be subacute or chronic. Its toxicity, although not of a high order, is significant. This is particularly true of the otic complications, which seem to be caused by the antibiotic itself and not by any impurity and which may leave serious and possibly permanent damage. Moreover, the treatment is expensive by any standard, and is likely to remain so. This is bound to be an important deterrent to its widespread use, particularly in view of its other limitations.—New England J. of Med.

The President's Page

Wagner-Murray-Dingell bills and other nostrums, which have been concocted by legislators as cures for the alleged economic ills of our system of medical care, have been opposed by the medical profession. This opposition is not entirely selfish as the doctor will still have a desirable position under these plans. It is, however, opposition to any plan which would establish government control over a profession or industry, as this would be a definite step toward socialization of our country.

In view of the fact that the doctors' views may be considered selfish, it would be of interest to sample public opinion on the same question. Such a survey of public opinion on a nation-wide scale has been recently conducted by the Opinion Research Corporation for the Medical Services Foundation, and the results have been made available through the National Physicians Committee. A glance at some of the questions and answers will show that opposition to government control is not only inside the profession. A similar survey was made in 1943, and the differences in percentages are interesting in some cases.

The question, "Have you heard of the American Medical Association?" was asked. The answers would seem to indicate that the people questioned were not unfamiliar with our medical set up.

	1947 Total	*Upper Income*	*Middle Income*	*Lower Income*
Have heard of AMA	74%	92%	83%	61%
Have not	26	8	17	39

The question was asked of those who had heard of the A.M.A., "In general, do you approve or disapprove of the American Medical Association?"

	1947 Total	*Upper Income*	*Middle Income*	*Lower Income*
Approve of A.M.A.	59%	70%	62%	49%
Disapprove	5	7	7	2
No opinion	36	23	31	49

These figures would seem to indicate that our national association is well known to the public and its stand on medical economics approved.

In the past four years the people have felt a definite inadequacy in facilities for medical care, as shown by the answers to the following questions: "Do you think your town or county has enough doctors, nurses, and hospitals to care for all the people who need medical care?" The answers were:

Year	*Enough*	*Not Enough*	*Don't Know*
1943	74%	19%	7%
1947	21	70	9

This can be explained partly by the absence of doctors and nurses in the armed forces, and to a lesser extent on propaganda. However, machinery to alleviate this condition has been set in motion by enactment of the Hill-Burton Bill with the full support of the medical profession.

To the question, "Have you or your family ever had an experience where paying doctor or hospital bills was a hardship?", 45% answered "yes" in 1943 and 47% in 1947. When asked "Do you think anything might be done to make it easier for people to pay doctor or hospital bills?", 53% in 1943 and 70% in 1947 felt something might be done.

The answers to the questions, "Have you heard of the term Socialized Medicine?", and "Are you for or against Socialized Medicine?", are tabulated as follows:

	Have Not Heard	*Have Heard*	*For*	*Against*	*Don't Know*
1943	57%	43%	13%	22%	8%
1947	45	55	13	34	8

Opposition to government control is shown by the answers to "Do you think it would be good or bad for the country if the medical profession were controlled by the National Government?" The replies were:

	Good for Country	*Bad for Country*	*No Opinion*
1943	24%	61%	15%
1947	23	65	12

Sixty-six percent felt there would be limitation of choice of doctor under government control, 69% felt any government interference with a doctor's choice of location would be bad, and 81% felt it would be bad if doctors were not allowed to choose their own field of specialization. This survey would seem to indicate a public desire for some changes in the economic side of our present plan of medical care. It expresses the confidence of the public in the ability of the doctor to straighten his own house without government control.

The answer seems to be support of local and statewide plans for payment of hospital and medical care. These plans approved by our national medical association will keep control of the economic phase of medical care in the hands of the doctor and by satisfying the public with the correction of some of our present economic inadequacies will in a large measure defeat any legislation leading to socialized medicine.

W. H. H. Clark

President.

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A PATIENT A DAY

The fight against socialized medicine must continue until the very last proponent of this enslavement measure is silenced. The pressure for the nationalization of the profession is lessened only to the extent of meeting the rapidly changing conditions in Washington.

In this nationwide fight, doctors have received valued support from other profesions. This support has been most effective, and, with the help of many able men in Congress, the forces of those who demand the continuance of the right to practice without control by government bureau or agency are holding the line.

Back home, there is something that we can do:

The membership of the West Virginia State Medical Association totals 1351. If every member in active practice will spend five minutes each day discussing with one patient the evils of socialized medicine, the total persons seen at the end of six months would add up to many thousands.

The possibilities of enlisting solid support at home are unlimited. Support at home definitely means needed support in Washington.

A patient a day! The effect of such a campaign in West Virginia would go a long way toward enlisting the solid support of our delegation in Congress. Participation by all the doctors in active practice in the United States would undoubtedly result in speeding the day when the threat that has been hanging over medicine for these many years would be but a memory.

MEDICAL CARE AND THE PUBLIC

The *Williamson Daily News*, restating its policy of opposition to state medicine and all that smacks of government control of the profession, recently commented editorially with reference to the Taft bill (S. 545) and the current version of what is known as the Wagner-Murray-Dingell bill (S. 1320—this time introduced by Senator Murray on behalf of himself, and Senators Pepper, Chavez, Taylor and McGrath), as follows:

One of the most controversial subjects before the American people and the American Congress at the moment is that of medical care for the people and how to pay for it.

Pending in Congress at the present time are two conflicting proposals, one sponsored by Senator Taft, the other by Senator Murray. Both contemplate the use of public money. The chief basic difference is that whereas the Taft bill would distribute the money among the states to be used for the benefit of those in need of assistance, the Murray bill would go directly into the enterprise of public medicine, as a matter of public policy. Medical care, in brief, to over-simplify the proposal, would become a public obligation like maintaining police or fire service or a judiciary system.

This newspaper always has been opposed and remains opposed to the doctrine of state medicine. It is convinced that, beyond providing help to those unable to help themselves—perhaps to a degree not heretofore undertaken—government should keep out of medical service. We believe a system of private medicine is more efficient and more in tune with the American tradition. Moreover, private medicine has done and is doing a great deal more to meet the need of the day than is generally appreciated.

DOCTOR HILLEBOE

Dr. Herman E. Hilleboe, Assistant Surgeon General, USPHS, has been appointed Commissioner of Health of the State of New York to succeed Dr. E. S. Godfrey, retired. Dr. Hilleboe has not resigned from the public health service, but goes on loan.

For some years past, Dr. Hilleboe has been in charge of the tuberculosis activities of the USPHS, and his work in that field has been outstanding. The federal program he has developed will go far toward the ultimate eradication of the Great White Plague. His editorials in the tuberculosis issues of the Public Health Reports have presented an exceptionally good overall picture of the tuberculosis problems confronting the country and have stimulated to better work phthisiologists and chest specialists generally. We predict for the Empire State great strides in health betterment under his administration.

THAT DOCTOR SHORTAGE

Evry now and then a squawk is heard about "the shortage of doctors" without due consideration of the situation on the part of the individual emitting the squawk.

During the recent hostilities, there was an actual dearth of physicians in civil life and a plethora with the armed forces, the latter a matter of military safety, if not even of military necessity. However, the situation now is vastly different.

Usually the lay critic of any medical condition offers a remedy which, if followed through, would not alleviate the situation at all and probably would only make matters worse. Continuation of the accelerated program, or the admission of an increased number of medical freshmen without a corresponding increase in facilities for instruction might increase the number of individuals holding the M.D. degree but would dilute the quality of the scholastic product.

The reason for the cessation of the accelerated program in most medical schools and the reduction in freshman enrolments to prewar levels, according to an editorial in the June 28 issue of *The Journal of the American Medical Association*, is that "medical educators were not doing as good a job of training physicians during the war as is now desired."

The Journal states that "more than 7,000 extra doctors were produced during the war. This was necessary. In many schools, facilities and strength of faculty now do not warrant maintenance of large enrolments or an accelerated program, without a serious sacrifice of high quality. Numbers can never replace quality, especially in medicine."

Brother Fishbein's editorial is so apropos that we quote it in its entirety:

"Recently a national periodical—Collier's—published a misleading article by Albert Maisel entitled "So You Can't Get a Doctor!" This long and somewhat confused statement purports to demonstrate that there is an acute shortage of doctors in this country and that deans of medical schools are callous to this alleged need, as shown by termination of the accelerated program in most schools and the reduction in freshmen enrolments to prewar levels.

"Much of the material in this article is sheer nonsense. The author begins with a partial quotation from a publication of the American Medical Association, taken out of its context, predicting a postwar shortage of doctors. Actually this estimate was made when the end of the war seemed far distant and the military authorities were refusing to allow able bodied men to enter premedical studies. The figures quoted were based on military estimates of the physician need for a large peacetime army and navy, universal military training and a staff for the Veterans Administration three times the number now actually employed. Only a fraction of the anticipated number of physicians is now employed in these services.

"While contending that maldistribution of doctors is not the major factor in the alleged shortage, Maisel selects as outstanding examples of shortages two states with per capita incomes well below the national average, and —of all places—Kelley's Island, four miles out in Lake Erie! The evidence for shortages even in large cities is based on replies to telegrams asking whether there exists in large cities a "surplus of physicians available for transfer elsewhere . . ." No wonder negative replies were received from 15 cities. Even where a surplus might exist, physicians are not "available for transfer" to a place to which they do not choose to go any more than are engineers or day laborers.

"Whether or not there is a real shortage of doctors requires a far more careful study than the mere sending of a few telegrams. Such studies are under way in several states and in the country at large. The population of physicians in this country has increased somewhat more rapidly than the population at large in the past 20 years. Whether or not there is a real total shortage, some maldistribution prevails and redistribution is extremely difficult in a democracy. Men are free to work in a place where there are facilities for good work, such as hospitals and diagnostic equipment, stimulating professional and educational contacts and reasonably good family living conditions, and where a reasonably good income is possible.

"There is close correlation between the per capita income of states or counties and the numbers of physicians who locate in any area. Such location is insignificantly affected by establishing more medical schools, increasing enrolments or accelerating the curriculum. More promising are the efforts now being made: the provision of hospital and diagnostic facilities under the Hospital Survey and Construction Act, the extension of prepaid medical care incurance, the strengthening of the status of the general practitioner, the information service on areas needing physicians, the intimate liaison of organized medicine with farm organizations, and similar considerations.

"The reason for the cessation of acceleration and the return of prewar enrolment numbers is simple: medical educators were not doing as good a job of training physicians during the war as is now desired. More than 7,000 extra doctors were produced during the war. This was necessary. In many schools, facilities and strength of faculty now do not warrant maintenance of large enrolments or an accelerated program, without a serious sacrifice of high quality. Numbers can never replace quality, especially in medicine. On these questions there is virtually unanimous agreement among medical educators, deans, faculty members, the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association."

THE PHYSICIAN'S WINDOW

The Physician's Window, the first of a series of North Transept windows in the Washington Cathedral which will commemorate the relationship of the professions of medicine, law and education to religion, was recently dedicated before a congregation which included leading medical men of Washington and vicinity. It was given in memory of the late Dr. Elmer Burkitt Freeman of Baltimore, who at the time of his death in 1942 was physician-in-charge at Maryland General Hospital, gastro-enterologist at University Hospital and at the Church Home and Infirmary, and a member of the staff of Union Memorial Hospital.

According to the summer issue of The Cathedral Age, the window consists of three lancets and tracery, depicting in the center lancet a beautiful and dignified figure of Christ, the Great Physician.

The Memorial window is further described as follows:

"In the right lancet Sir Wilfred Grenfell is portrayed as a young man, his hand resting on a snowshoe and above his head the 'Strathcona' and an iceberg. He is clothed in the costume which he wore in Labrador during his many missions of mercy. Below is an amusing representation of the country doctor hastening to call on a patient by horse and buggy. Above, the stork is flying in the same direction.

"The left lancet contains the figure of Louis Pasteur, the great medical scientist, holding a test tube and scroll. He is surrounded by medicine bottles and test tubes symbolizing his medical research. In the panel below a doctor is shown in a medical laboratory with the implements of his profession."

The window was designed by Wilbur Herbert Burnham, his son, and a staff of highly skilled artists and craftsmen.

COMPULSORY RETIREMENT

The experience of the war years, when many older people were pressed back into service, demonstrated the usefulness of these people in every field of endeavor. Many outstanding examples may be cited of men and women whose old age was marked by their greatest achievements.

Benjamin Franklin at 79 was a leading public figure in the United States. Thomas A. Edison, between the ages of 70 and 80, introduced some of his greatest inventions. Elihu Root was active in his legal work at 90; Oliver Wendell Holmes at 90; Lord Balfour after 85. Gladstone was prime minister at 83. Lloyd George married at 80 and was a power in the British Parliament then. Longfellow, Holmes, Whittier, Bryant and Tennyson wrote some of their finest poetry after the age of 75. Nicholas Murray Butler was very active as president of Columbia University at 82. Michaelangelo created some of his finest pieces of art when in the middle eighties. John Wesley was preaching regularly at 88. Connie Mack was manager of the Philadelphia Athletics in his eighties. Alonzo Stagg, 81-year-old coach of the College of the Pacific, was named "The Football Man of the Year" in 1943. Numerous examples of this type may be cited.

Compulsory retirement at a given age takes many an individual away from a job at a time when he is most efficient. This is a challenge to our modern society. Places should be found in our business and industrial world for these older people.—R. B. Robins, M. D., in J. Arkansas Med. Soc.

A TIMELY TIP

Senior medical students and interns should not overlook the opportunities ahead in general practice. Before entering the marathon for certification in the specialties, every young physician should give consideration to the present trends and future possibilities.

There are 180,000 licensed physicians in the United States. There are 26,000 certified specialists. At the present rate there will be 36,000 within another decade. With 30 per cent of available physicians in the specialities and only 10 to 15 per cent of human ills calling for highly specialized medical attention, would it not be wise to go into general practice where opportunities for success and satisfaction are being multiplied by overcrowding the specialties.—J. Oklahoma St. Med. Assn.

General News

NEARLY ONE-THIRD MCV GRADUATES IN MEDICINE FROM WEST VIRGINIA

Dr. Meta Glass, president emeritus of sweetbriar College, Lynchburg, delivered the address at the Medical College of Virginia commencement exercises June 17, at the Mosque Theatre, in Richmond.

Dr. W. T. Sanger, the President, presented diplomas to 79 graduates in medicine, nearly one-third of the class being from West Virginia. The following is a list of the graduates fro mthis state, with home address and hospital wheer internship will be served:

John Sommer Blagg, South Charleston, Charleston General Hospital.

Arthur Allen Carr, War, St. Mary's Hospital, Huntington.

Elmond LeMoyne Coffield, Morgantown, Ohio Valley General Hospital, Wheeling.

Genevieve Marston Garrett, Morgantown, Johnston-Willis Hospital, Richmond, Virginia.

Ray Silvio Greco, Fairmont, Ohio Valley General Hospital, Wheeling.

David Alonzo Haught, Jr., Huntington, St. Mary's Hospital, Huntington.

Waldo Cornell Henson, Jr., Charleston, Methodist Hospital, Indianapolis, Indiana.

William Sawyers Herold, Summersville, Ohio Valley General Hospital, Wheeling.

Shelby Edward Jarrell, Packsville, St. Mary's Hospital, Huntington.

Stuart Hinman Light, Huntington, Southern Baptist Hospital, New Orleans, Louisiana.

Louis Amadea Loria, Hepzibah, Youngstown Hospital, Youngstown, Ohio.

Richard Young Morgan, Beckley, Youngstown Hospital, Youngstown, Ohio.

Frank McDonald Peck, Logan, Ohio Valley General Hospital, Wheeling.

James William Peck, Summersville, Ohio Valley General Hospital, Wheeling.

Jay Emmett Rogers, Jr., Charleston, Charleston General Hospital, Charleston.

James Alpha Thompson, Clarksburg, Medical Center, Pittsburgh, Pennsylvania.

Carl Christopher Tully, Charleston, United States Marine Hospital, Baltimore, Maryland..

William Nelson Walker, Jr., Clarksburg, Mercy Hospital, Pittsburgh, Pennsylvania.

Fred Walls, Jr., Charleston, Cleveland Clinics, Cleveland, Ohio.

Enoch W. White, Jr., Jane Lew, Medical College of Virginia Hospital, Richmond, Virginia.

Leah Mildred Williams, Hinton, Medical College of Virginia Hospital, Richmond, Virginia.

William Tilden Williams, Beckley, Robert Packer Hospital, Sayre, Pennsylvania.

Walter Kinstler Yates, Kenova, University Hospitals, Oklahoma City, Oklahoma.

PHC TO MEET OCT. 2-4

The fall meeting of the Public Health Council will be held at the Daniel Boone Hotel in Charleston, October 2-4, for the purpose of examining applicants for license to practice medicine in West Virginia.

DRS. VEST, BITTINGER, AND AMICK NAMED MEMBERS OF PHC BY GOVERNOR

Governor Clarence W. Meadows has reappointed Dr. Walter E. Vest, of Huntington, and Dr. W. P. Bittinger, of Summerlee, as members of the public health council for a four-year term ending June 30, 1951. Dr. Andrew E. Amick, of Lewisburg, was appointed a member of the council for a four-year term. He succeeds Dr. William R. Goff, of Parkersburg.

Doctor Vest has been a member of the public health council since 1933 and has served as its president since 1937. Doctor Bittinger has been a member since 1939, having been appointed to fill the unexpired term of Dr. S. W. Price, deceased.

Doctor Amick is immediate past president and now chairman of the council of the West Virginia State Medical Association.

The other members of the council, appointed in 1946, are Dr. N. H. Dyer, state health commissioner, secretary ex-officio; and, Drs. Frank V. Langfitt, of Clarksburg, W. W. Point, of Charleston, and J. J. Brandabur, of Huntington. Dr. N. H. Baker, of Charleston, is the dental member of the council.

PRIZES AWARDED IN CANCER ESSAY CONTEST

Prizes have been awarded to three contestants in the essay contest recently conducted by the West Virginia Cancer Society. The subject, limited to 1500 words, was "How to Best Educate the People in West Virginia Against Cancer." The contest which was open to students at West Virginia University or any college in the state, closed March 31, 1947, and thirty-eight contestants submitted essays.

Dr. Russell B. Bailey, of Wheeling, Dr. E. J. Van Liere, dean of the West Virginia University School of Medicine, and Calvert L. Estill, of Charleston, publicity director for the West Virginia Cancer Society, were appointed judges of the contest.

First prize ($200) was awarded to James W. Hendrick, of Morgantown, who is a second year student at West Virginia University School of Medicine. Mr. Hendrick is a native of Keithsville, Louisiana, and will enroll at the medical school at Tulane University in September. He attended West Virginia University under the ASTP program, and was in the upper third of his class.

Mrs. H. M. Kittle, the former Elizabeth Guy, of Valley Bend, was awarded the second prize of $100. She graduated from Davis-Elkins College in June.

The third prize of $50 was awarded to Eugene C. Vinson, of Wayne county. Mr. Vinson is a former G. I., and is enrolled at Marshall College in Huntington, where he is a sophomore.

MRS. HOLCOMBE RENAMED TO COMMITTEE

Mrs. V. Eugene Holcombe, of Charleston, has been renamed as a member of the nominating committee for the annual meeting of the Woman's Auxiliary to the American Medical Association, at Chicago, June 21-25, 1948. Mrs. Holcombe, who has been a member of this committee for several years, is a past national president of the AMA auxiliary, having served in 1940-1941.

UHPHS EXPANDS CANCER PROGRAM

The U. S. Public Health Service has announced plans for an expanded attack on the cancer problem that will place cancer in the forefront of the government's medical research and control programs.

Legislation already enacted by Congress more than triples appropriations for research and control of cancer, and brings next year's budget of the National Cancer Institute at Bethesda, Md., to the all-time high of $14,000,000.

Under the new law, support may now be extended to universities to assist them in developing greatly expanded cancer research and training programs. Evidence of the overall desire on the part of the Congress and the President to provide continuity in cancer research is shown in a provision of the act under which funds for cancer research and training grants remain available until spent.

Already the National Advisory Cancer Council of the Institute has recommended greatly increased grants-in-aid to outside institutions engaged in experiments to find the cause and cure of cancer. With the passage of the appropriations bill, a total of forty-six project grants, involving the expenditure of $594,348, was made to widely scattered groups. In all, thirty-five institutions in twenty-three states are recipients. At the same time the Institute is expanding its own research program at Bethesda, where there will be increased emphasis on clinical research.

Four million dollars of the increase in NCI's budget will go to cancer control, the program administered through the states to increase the effective use of present methods of diagnosing and treating cancer.

The cancer control program will place emphasis on the improvement of cancer detection, diagnostic and treatment facilities; the development of refresher courses for doctors; the establishment of adequate statistical services on cancer; and the setting up of cancer control units in state health departments.

ACP RESEARCH FELLOWSHIPS

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1948 to June 30, 1949. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigate career in internal medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work. The stipend will be from $2,200 to $3,000.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1947. Announcement of the awards will be made as promptly as is possible.

CASH SICKNESS BENEFITS PLAN FOR RAILROAD WORKERS EFFECTIVE JULY 1

Under a program effective July 1, approximately 35,000 railroad employees in West Virginia will be protected by the new sickness insurance system for railroad workers, according to C. P. Young, of Huntington, district manager of the Railroad Retirement Board. He estimates that $500,000 in sickness benefits will be paid out in this state during the coming year. The program was set up under 1946 amendments to the Railroad Unemployment Insurance Act. Under the plan, railroad employees will become one of the first groups in the country to be insured under a government plan against loss of wages on account of temporary disability.

In the first year of operations, it is expected that about 300,000 of the 2,075,000 railroad workers in the United States will receive benefits, the total amount of which is expected to reach $36,000,000. Like the benefits now payable for unemployment, due to lack of jobs, the new sickness benefits will be financed entirely through taxes paid by the railroads under the act. No assessment will be levied against employees for this purpose.

There will be free choice of doctors, and physicians to whom an employee goes for examination or treatment may supply the information required as initial proof of an employee's claim. A physician's statement of sickness will be required before claims can be paid, and it is believed that the program will necessitate about 650,000 medical examinations each year.

According to Mr. Young, the amount of benefits will vary from $1.75 to $5.00 per day depending upon the amount of the 1946 earnings. The lowest rate ($1.75) is for the employee who earned from $150 to $199, and the highest ($5.00) is for the man who earned $2500 or more. The maximum that any worker may draw in a benefit year ranges from $227.50 to $650.

SOUTHERN MEDICAL TO MEET IN BALTIMORE

The 41st annual meeting of the Southern Medical Association will be held in Baltimore, November 24-27. According to the Southern Medical Journal, the executive committee of the council selected Thanksgiving week because a larger number of hotel rooms will be available that week than at any other time.

Each section will have one full session, but because of the relatively small number of hotel rooms available for a meeting, and the limited number of acceptable and usable meeting rooms, the programs will again be streamlined.

The Fifth Regiment Armory will house all scientific and technical exhibits, and all meetings and sessions will also be held there. All hotel reservations will be made through a special committee. Reservations should be addressed to Hotel Committee, Southern Medical Association Meeting, 1714 O'Sullivan Building, Baltimore 2, Maryland.

POLIO EMERGENCY VOLUNTEERS IN TRAINING

A training program designed to provide additional and improved service for polio patients in hospitals has been instituted by the Kanawha County Chapter of the National Foundation for Infantile Paralysis. Several polio emergency volunteers (PEV) have completed a theoretical course and are now receiving bedside training at the Marmet Hospital, Marmet, and at Morris Memorial Hospital for Crippled Children, at Milton. These volunteer aids will assist doctors, nurses, and physical therapists in the care of patients with infantile paralysis.

The program in Kanawha county is under the direction of Mrs. Fred Sarles, of Charleston, the National Foundation's assistant director of women's activities in West Virginia. Instructions are being given by the following doctors who are actively participating in the program: Harold H. Kuhn, director of the crippled children's division, DPA; E. B. Henson, medical director of the Marmet Hospital; Paul H. Harmon, medical director of the Morris Memorial Hospital for Crippled Children; and R. L. Anderson, Claude B. Smith, S. L. Bivens, and George Miyakawa, Charleston. Miss Katherine Henderson, of the crippled children's division, has been assisting with instructions in bedside care.

RECOMMENDS DEPARTMENTS OF ANESTHESIOLOGY

At a meeting of the board of directors of the American Society of Anesthesiologists, Inc., held June 11, in Atlantic City, a resolution was adopted strongly recommending the establishment of departments of anesthesiology in all medical schools and hospitals under the direction of a doctor of medicine actively engaged in the practice of anesthesiology, the department to bear the same relationship to the medical school or hospital as is borne by other medical departments of the institution.

In the same resolution, the society went on record as disapproving the training of persons other than doctors of medicine in the science and art of anesthesiology "for the assumption of responsibility in the care of patients where it may be necessary to exercise medical judgment."

ACP TO MEET IN SAN FRANCISCO

The American College of Physicians will conduct its 29th Annual Session at San Francisco, April 19-23, 1948. General headquarters will be at the Civic Auditorium. Dr. William J. Kerr and Dr. Ernest H. Falconer, both of San Francisco, are the co-chairmen for local arrangements and the program of clinics and panel discussions. The president of the College, Dr. Hugh J. Morgan, professor of medicine at Vanderbilt University School of Medicine, Nashville, Tennessee, is in charge of the program of morning lectures and afternoon general sessions.

Secretaries of medical societies are requested to note these dates and, in arranging meeting dates of their societies, avoid conflicts with the College meeting.

GIFTS PRESENTED TO AMA AT ANNUAL MEETING IN ATLANTIC CITY

The recent Centennial meeting of the American Medical Association in Atlantic City was an occasion of good will on the part of medical organizations throughout the world. Official representatives of medical societies and foreign governments were present in great number and many gifts were presented the Association commemorating the centennial meeting. Among these gifts were treasured medical books, silver and gold medals, paintings and scrolls.

Dr. Guy Dain, chairman of the Council of the British Medical Association, presented the House of Delegates with a gavel and block which, he said, "may tie the two countries perhaps a little closer together."

Dr. Dain explained that the gavel and block, which will be used by the Speaker, was made from the wood of the mulberry tree which stood in Charles Dickens' garden at Tavistock House in London when he lived there between 1851 and 1860 and wrote such books as "Little Dorrit" and "Great Expectations."

"When we took over the property on which the British Medical Association House is built," Dr. Dain told the House of Delegates, "that mulberry tree was standing there and, unfortunately, it had to be cut down." He explained that "this bit of wood with an inscription from the British Medical Association is a token of our good will and our good wishes for the next hundred years." The gift was accepted on behalf of the A. M. A. by Dr. George F. Lull, secretary and general manager.

Another gift—a priceless medical book—was presented to the A. M. A. by Dr. Einar Geert-Jorgensen, senior physician of the Municipal Hospital of Copenhagen, chairman of the Danish Neurological Society and representative of the Danish Medical Association. The book, Acta Medica Bartholini, published in 1671, was the first medical paper in Denmark and was edited by the famous Danish scientist and physician, Thomas Bartholini.

Dr. Szeming Sze, official delegate from the Chinese Medical Association and the Republic of China, presented a scroll, written in Chinese.

The scroll, with a painting of a pine tree, which in China is emblematic of longevity, contained an inscription suitable to the occasion. It closed with this verse: "Long life to the profession which gives long life to mankind and humanity."

AUTO EMBLEMS

An additional supply of auto emblems has been received at the headquarters offices of the State Medical Association. The price is $2.75 postpaid, and members may obtain emblems by addressing West Virginia State Medical Association, Box 1031, Charleston 24, W. Va.

DOCTOR AMICK TWICE HONORED

Dr. Andrew E. Amick, who was recently appointed by Governor Clarence W. Meadows as a member of the public health council, has also been named as the West Virginia member of the Council of the Southern Medical Association. Announcement of the appointment, made by Dr. Lucien A. Le Doux, of New Orleans, president elect of the Association, was carried in the July issue of the Southern Medical Journal.

Doctor Amick succeeds Dr. Ray M. Bobbitt, of Huntington, whose term expires in November, and who, having served the constitutional limit, was not eligible for reappointment.

RELOCATIONS

Dr. Paul McCuskey, of Wheeling, has moved to Parkersburg where he will continue the practice of his specialty of urology, with offices at 1215 Market Street.

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Dr. Charles H. Hiles, of McGee Hospital, Pittsburgh, has moved to Wheeling, where he will continue the practice of his specialty of internal medicine as a member of the medical staff of the Wheeling Clinic. Doctor Hiles served as senior medical resident at the McGee Hospital following more than four years' service in the medical corps of the Army.

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Dr. Joseph J. Toland, III, of Philadelphia, who was just recently released from the army medical corps, after serving in Korea, has accepted a residency in orthopedic surgery at the Morris Memorial Hospital, at Milton.

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Dr. James O. Warren, of Welch, has moved to Dillon, South Carolina, where he will continue in general practice.

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Dr. C. F. Jackson, of Charleston, who has been in industrial practice at Whitesville, has moved to Portland, Maine, where he has offices at 312 Congress Street.

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Dr. Richard N. O'Dell, of Charleston, is serving as an instructor in medicine at Syracuse University College of Medicine for the year ending July 1, 1948. He expects to return to Charleston next summer to engage in the practice of his specialty of internal medicine.

LILLY RESEARCH DIRECTOR HONORED

Dr. G. H. A. Clowes, Ph. D., Sc. D., LL. D., director emeritus of the Lilly Research Laboratories, was honored by the American Diabetes Association at its recent annual meeting in Atlantic City. He delivered the annual Banting Memorial address and was awarded the Banting Medal which is given in recognition of distinguished service in the field of diabetes.

Under Dr. Clowes' direction, the Lilly Research Laboratories cooperated with the University of Toronto and Drs. Banting and Best in the early development of insulin of sufficient purity and stability to permit its widespread clinical use throughout the world.

DR. W. B. ROSSMAN NAMED DIRECTOR OF NEW BUREAU OF MENTAL HEALTH

Dr. William B. Rossman, neurophychiatrist, of Charleston, has been appointed director of the new bureau of mental health of the state department of health. The appointment was made by Dr. N. H. Dyer, state health commissioner, under the provisions of an act passed by the legislature in 1945.

Doctor Rossman located in Charleston in 1945, after his release from military service. During World War II, he served as a neuropsychiatrist in the medical corps of the army and was with our armed forces in the ETO for two years. He is a graduate of Indiana University School of Medicine, and is a diplomate of the American Board of Psychiatry and Neurology.

Plans for the establishment of the bureau were completed by the public health council at a meeting held in Charleston June 30. Although administrative policies have not yet been outlined by Doctor Rossman, it is known that the establishment of mental hygiene clinics in various parts of the state is part of the program that is being planned for the future.

No appropriation was made by the legislature either in 1945 or 1947 for the new bureau, but one-third of the expenses will be paid from the state health department's general fund. The balance of the funds necessary will be provided by the federal government under the provisions of the national mental health act recently passed by Congress. The purpose of the federal act is "to improve the mental health of the public through fostering research, training personnel in mental health, and assisting staes in the use of the most effective methods of prevention, diagnosis, and treatment of psychiatric disorders."

NEW HEALTH OFFICERS APPOINTED

At a meeting of the Public Health Council held in Charleston, June 30, the appointment of Dr. Charles L. Leonard, of Elkins, as city health officer was confirmed. The Council also confirmed the appointment of Dr. R. Stuart Van Metre as health officer for Huntington.

Reappointments as city health officers were made as follows:

Drs. C. F. Mahood, Alderson; E. M. Hamilton, Belington; David B. Lepper, Bluefield; R. V. Shirley, Ceredo; G. P. Morison, Charles Town and Ranson; R. D. Stout, Grafton; E. A. Courrier, Keyser; Clarence I. Butte, Jr., Matoaka; James McClung, Richwood; and John W. Gilmore, Wheeling.

STATE DOCTORS ATTEND PEDIATRIC SEMINAR

Drs. Stephen Mamick, of White Sulphur Springs, W. W. Davis, of Parkersburg, and L. A. Dickerson, of Madison, were among the doctors who attended the Southern Pediatric Seminar, held July 14-28, at Saluda, North Carolina.

The highest duty of medicine is to get the patient well; of several effective remedies, choose the least sensational . . . To the love of his profession, the physician should add a love of humanity.—Hippocrates.

CHRISTMAS SEALS, 1946-47

The total amount realized from the sale of Christmas Seals in West Virginia in 1946-47 showed an increase of 12.8 per cent over the preceding year, according to a report just issued by the West Virginia Tuberculosis and Health Association.

With complete returns received from all but two counties in the state, receipts totaled $132,132.55, as compared with $117,145.74 for 1945-46.

The largest increase was reported from Logan County where sales jumped to $7,005, as compared with $1,892.05 last year. Kanawha County, with total sales of $17,514.60 led the state. Harrison was second with $13,546.46, and Cabell third with $8,194.25.

DR. WILKINSON HEADS MCV ALUMNI

Dr. R. J. Wilkinson, of Huntington, was elected president of the alumni association of the Medical College of Virginia at the annual meeting held in Richmond in connection with the closing exercises of the College. He will succeed Dr. Harry Lee Claud, of Washington, D. C., who was installed as president at the meeting. As president of the alumni association, Doctor Wilkinson will serve as ex officio member of the Board of Visitors of the College.

Dr. Waverly R. Payne, of Newport News, the retiring president, was the guest speaker at the MCV alumni luncheon held in Charleston last May during the 80th annual meeting of the State Medical Association.

KANAWHA HEALTH UNITS MERGE

The merger of the Kanawha county health department with the health department of the city of Charleston was completed July 1. The consolidation of the two health units was effected under the provisions of a bill passed by the legislature at the regular session early in 1947. Merger of city and county health units has long been advocated by the West Virginia State Medical Association, the state department of health, and the public health council. The bill had the full support of these groups.

The new city-county health department will be under the supervision of a board of health. A director will be named, and the appointment will have to be approved by the public health council.

Members of the board have been appointed as follows: For the city of Charleston, J. Hornor Davis, Oliver S. Hagerman, and Hawthorne D. Battle; and, for Kanawha County, W. T. Bryant, St. Albans, Albert C. Daugherty, Elkview, and Donald Shonk, Dawes. Two additional members will be named, one by Kanawha Medical Society, and the other by Kanawha Dental Society.

The appropriation for the expenses of the new unit for the fiscal year ending June 30, 1948, totals $64,000, the city and county each having appropriated one-half that amount. Present facilities in the city hall and court house will be used until new quarters can be provided.

Obituaries

WILLIAM ALLEN CRACRAFT, JR., M. D.

Dr. William Allen Cracraft, Jr., 69, of Wheeling, died July 10, at a hospital in that city. Death was due to a heart ailment from which he had suffered for the past two months

Doctor Cracraft was born at Elm Grove, February 17, 1878, son of the late W. A. and Mary (Key) Cracraft. He received his early education in the public schools and at Linsly Institute, and had his pre-medical training at West Virginia University and the University of Pennsylvania. He received his M. D. degree in 1901 from the University of Virginia. He located in Wheeling that same year, where he continued the practice of his specialty of obstetrics and gynecology until his death.

Doctor Cracraft was commissioned a captain in the army medical corps early during World War I, and saw service in France with the Johns Hopkins Medical Unit. He was a member of the Ohio County Medical Society, the West Virginia State Medical Association and the American Medical Association.

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CHARLES PATTERSON NASH, M. D.

Dr. Charles Patterson Nash, 88, of Alderson, died July 12, 1947, at his home in that city. Death followed a three-weeks' illness.

Doctor Nash was born at Buffalo, in Putnam County, May 9, 1859, son of James Monroe and Missouri (Martin) Nash. He was a graduate of the College of Physicians and Surgeons, Baltimore, and was licensed to practice in West Virginia in 1884.

After practicing in Buffalo for twenty years, he moved to Richwood, where he engaged in industrial practice for the Cherry River Boom and Lumber Company. He afterwards moved to Alderson, but retired from active practice nearly thirty years ago. For several years he has been engaged in farming in Greenbrier county.

Besides his widow, Mrs. Mary Elizabeth (Mann) Nash, he is survived by a daughter, Mrs. Elizabeth Lide Trippy, and four sons, James Frank Nash, and Ralph A. Nash, of Alderson, and Charles P. Nash, Jr., and Edwin Mann Nash, of Charlottesville, Virginia.

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AARON BURLEIGH SPAHR, M. D.

Dr. Aaron Burleigh Spahr, 49, of War, died April 20, 1947, in a hospital at Ashville, North Carolina. Death was due to a liver condition from which he had been suffering for over two years.

Doctor Spahr was born at Benhams, Virginia, January 18, 1898, son of the late E. C. and Rittie Spahr. He received his A. B. degree at Kings College, Bristol, Virginia in 1920, and his M. D. degree from the Medical College of Virginia in 1946. He served an internship at the Memorial Hospital in Richmond, was licensed to practice medicine in West Virginia in 1926, and located at Bramwell. Later, he moved to Newhall, where he practiced for fourteen years. After serving as medical officer for the CCC, he was transferred to the army medical corps and was stationed at Columbus, Ohio. Following his service in the army, he located at War, where he continued in practice until his death. He was a member of the McDowell County Medical Society, the West Virginia State Medical Association and the American Medical Association.

Besides his widow, Mrs. Anne (Butcher) Spahr, he is survived by his mother and four brothers.

DE SENECTUTE

As Dr. Roger I. Lee has pointed out, we have, by our care of the young, permitted many more people to become elderly without doing much to make that increase in years any happier or even more endurable. One of our tasks is to make these added years, for which most of us hope and which most of us dread, more pleasant ones to anticipate and to attain.

The declining years of life should have their own activities and their own compensations and their own type of oversight. They require certain dietary limitations, as of fats and roughage, and certain dietary reinforcements, as of vitamins and even digestants. Indeed, some of the proprietary firms are already promoting pap for the aged as well as pap for the young.

Age has its dignity, too often lost; let it also have its comfort, too often lacking. Let our childhood at least share the consideration given our first. The enthusiastic lines of Rabbi Ben Ezra,

> Grow old along with me!
> The best is yet to be,
> The last of life, for which the first is made,

particularly appropriate for a geriatric slogan, hold a promise that is still not always fulfilled but offers a target at which to shoot.—New England Journal of Medicine.

VALUE OF "ART" IN TREATMENT

All of us recognize the value of what is called "art" as well as "science" in the practice of medicine. This is particularly true in treating old people. It is very important to consider their feelings and emotions. The headache may be due to worry or to living in unpleasant surroundings rather than due to hypertension. The indigestion may be caused by the same factors rather than cholecystitis or cancer of the stomach. It is important "what we do," but it is also important "how we do it."

Let us remember the words of George Morris Piersol who said our aim as physicians should really be to "add more life to the years rather than more years to the life."

There is an economic and social phase of this discussion which needs some consideration and that is the present tendency to retire employees at a definite age, usually sixty-five. This is a prevalent practice in industry, in government and in educational institutions. Someone has said that if this practice continues much further, those earning a living beyond sixty-five will soon be limited to U. S. Senators and doctors—R. B. Robins, M. D., in J. Arkansas Med. Soc.

Diabetes Abstracts

PREGNANCY COMPLICATING DIABETES OF 20 YEARS OR MORE DURATION—Pricillo White, M. D., Boston, Moss., Medicol Clinics of North Americo, Morch, 1947.

Because diabetes predisposes the pregnant woman to pre-eclampsia, and because it predisposes the patient to vascular disease, the author attempts to find out whether prolonged diabetes seriously affects fetal survival, and maternal survival and morbidity.

In the author's clinic the experience with pregnancies in ordinary diabetics is excellent. In 322 pregnancies over a 10 year period there was only one maternal death, due to infectious hepatitis 8 weeks post-partum. Fetal mortality and pre-eclampsia paralled an abnormal pattern of the sex hormones of pregnancy. In 70 cases with normal levels of serum chorionic gonadotropin, and with normal pregnandiol excretion, the fetal survival was 97%, and the incidence of pre-eclampsia 1%. In 62 cases with abnormal hormonal patterns, without treatment, the fetal survival was 44%, and the incidence of pre-eclampsia 50%. In 190 cases with abnormal hormonal patterns given treatment with estrogen and progesterone, the fetal survival was 90%, and incidence of pre-eclampsia 5%. Under good supervision, then, the average diabetic pregnancy has a good outlook in all respects.

A different picture appears in the study of pregnancy in diabetics of long duration. In the author's series there were 14 patients with a 20 year or more history of diabetes. They had 24 pregnancies. All mothers survived. 13 pregnancies without sex hormone treatment resulted in only one live birth. Eleven treated pregnancies resulted in 7 living infants, or 63% fetal survival. Of these 11 treated pregnancies 5 developed pre-eclampsia. It is evident that diabetes of long duration greatly increases fetal mortality and pre-eclampsia even under careful treatment. Diabetics of long duration have a high incidence of vascular disease, evidenced by arteriosclerosis, retinal hemorrhages, hypertension, and nephritis, and it is this factor of vascular disease that raises greatly the risks of pregnancy in such women, even though only in their early thirties. Three patients in the series had diabetes of 25 years standing, and all three showed evidence of severe vascular disease. In the summary of one of these the increasing hazard brought by long-standing diabetes was well demonstrated. The patient had had four pregnancies, each more complicated than the one before, and the last one, after 25 yars of diabetes, came near being fatal to the mother, with hypertension and anginal attacks.

The author concludes that in diabetes of 20 to 25 years' duration, maternal survival, fetal survival, and maternal morbidity, parallel the degree of pre-pregnancy vascular disease. Pregnancy is advised against in women over 30 whose diabetes is of 25 years' duration.—F. H. W.

Book Reviews

GYNECOLOGY, INCLUDING FEMALE UROLOGY—By Lowrence R. Whorton, Ph. B., M. D., Assistont Professor of Gynecology The Johns Hopkins School of Medicine, Boltimore. Second Edition. Pp 1027, With 479 illustrotions. The W. B. Sounders Co., Philodelphia. Price $10.00.

The embryological, anatomical and symptomatic relationship of the genital and urinary organs is so close in the female that one wonders why all works on gynecology have not naturally included them both. Certainly, the author, product of the Kelly school of both gynecology and urology, ably demonstrates their clinical community.

The book opens with the usual chapter on anatomy, describes the importance of the supporting structures of the pelvic and abdominal walls, and then proceeds to embryology and congenital malformations. Incredible as it may seem, the author's style made these latter subjects interesting reading. The section on physiology is comprehensive. It deals with menstruation, normal and otherwise, estrogens, and other sex hormones, and the menopause.

Having described the system, told how and why it works, the next step follows inevitably: "The Art of Diagnosis." According to curent cross word usage, art means organized kknowledge. In this sense, Wharton has captioned this chapter correctly. Thereafter, come consideration of injuries, displacements, infections, diseases of the separate genital organs, etc. The chapter on diseases of the vulva is by L. A. Grey. The remarks on female sterility will prove stimulating to those who rest after a normal Ruben's test. A verbal and pictorial description of the different operative and mechanical procedures accompanies the discussion of disease in each organ.

Part II is devoted to female urology. This part of the work may well be regarded as the lineal descendant of the perennially modern Kelly and Burnham's "Diseases of the Kidneys, Ureters and Bladder." It is a clear exposition of those features of urology peculiar to the female sex, as contrasted with most other urological texts which are written by authors primarily concerned with male urology. Of especial importance in this part of the book are those sections devoted to the female urethra, ureteral stricture, the urinary tract in pregnancy, and pyelitis of pregnancy. All surgeons operating on the female pelvic organs will read with interest what the author says about operative injuries of the ureter. He gives his methods of avoiding this unfortunate occurrence, and tells what to do when it happens.

Throughout the book, each chapter is preceded by an outline of its contents for the convenience of "the medical student" (one wonders when do physicians cease being medical students, or do students become physicians when they cease being students, or why the distinction, anyway?). Many of the 497 illustrations

are original with this work and are largely by Max and Elizabeth Brodel and Max Schlossburg. They well serve their purpose.

Almost encyclopedic in scope, the work is essentially a monograph. The author's position in the middle of the road is always clear, but he never hesitates to give credit and respectful place to those to the left or right of him. It might be criticized that there is too much material included, e.g. description and illustration of appendectomy. On the other hand one might question the omission of a chapter on frigidity and dispareunia. Obiously the author considers these proper subjects for psychiatric consultation. However, since these patients so often present physical signs and undergo so many unnecessary operations, and since many of his readers will not have easy access to a psychiatrist, it is to be hoped that future editions may give greater attention to the emotional side of gynecology.

Wharton's is an excellent work very much in a class by itself.—I.

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SURGICAL PATHOLOGY—William Boyd, M. D., Dipl. Psychiat., M. R. C. P. Edin., F.. R. C. P. Lond., LL. D. Sosk:, M. D. Oslo, F. R. S. C., Professor of Pothology, The University ot Toronto. Sixth Edition. Pp. 858, with 530 illustrotions, including 22 color figures. Philadelphio ond London: W.. B. Sounders Comoany, 1947. Price $10.00.

The new edition shows technical improvements over the previous edition which came out during the war. Paper and print are excellent and many good illustrations have been added. Also, some new material is included, notably a section dealing with the pathological aspects of congenital heart disease which are important in the modern surgical treatment of this condition.

The first nine chapters, comprising about 160 pages, deal with general pathology in surgical conditions. These cover inflammation, tissue repair, wound infections, and specific inflammations as well as circulatory disturbances such as hemorrhage, thrombosis, embolism and gangrene. There is a short chapter on the pathology of shock. The section concludes with tumors and cysts.

The larger portion of the book, 25 chapters, covers the special pathology of organs and organ systems. With the exception of the eye, the pathology of surgical conditions of all the systems is extensively discussed. The section on the alimentary tract, including the great abdominal glands and the peritoneum, occupies about 200 pages. The section on urological pathology and the chapter on surgical pathology of the thorax are especially impressive. The latter is an outstanding example of informative and interesting pathological writing, discussing the pathological conditions in which important surgical advances have been made in recent years. Each chapter has a short concluding paragraph on references for further study. These have been selected from sources which are relatively easy to obtain.

Throughout the text the attempt is made to correlate morphology with clinical findings. The author tries to complement dead-tissue pathology as seen in the postmortem room with the "pathology of the living" as seen in the operating room. He likens the pathology seen in the "dead-house" to a "burnt-out volcano," "but surgery is concerned more and more with the beginning rather than the end." The author truly succeeds in conveying a dynamic picture of pathological developments, and this concept contributes much more to the understanding of disease than do conventional, static pathologic-anatomical descriptions.

Of interest are the frequent historical vignettes, features which help to make the text entertaining as well as instructive.

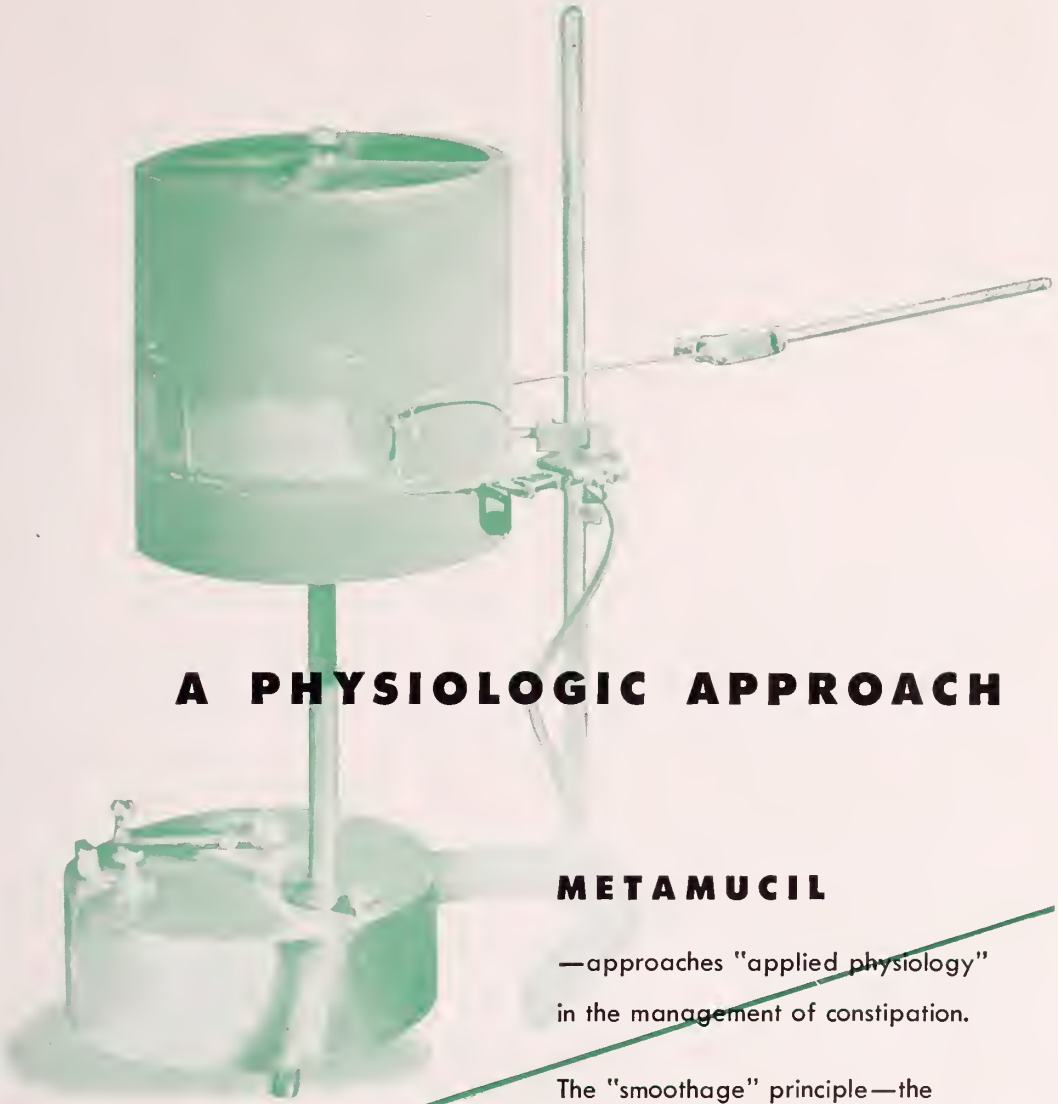
Boyd's Surgical Pathology does not need any recommendation because it is already a medical classic. Among the texts on pathology it stands out not only because it is a good book on surgical pathology but because it makes interesting reading. Many good texts on pathology are too dry and are consulted only by medical students and pathologists. The readability of Boyd's book increases its intrinsic value; it deserves to be widely read and studied and will help to promote pathological knowledge among surgeons.—Siegfried Werthammer, M. D.

* * * *

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA. Thirteenth Revision. Prepared by the Committee of Revision, E. Fullerton Cook, Chairman, ond published by the Board of Trustees. Fobrikoid. Pp. 957. Mock Printing Company, Easton, Po., 1947. Price $8.00.

The Thirteenth Pharmacepoeia appears only five years after the twelfth became official and reflects the intense medical development of the war period from which we are just now emerging. For the first time the English titles occupy the leading position, although the Latin titles are retained. Ninety-five articles are added to those appearing in U. S. P. XII and 110 articles included in the Twelfth Revision have been deleted from the present volume. Among the additions may be mentioned Digitoxin, Protamin Zinc-Insulin Injection, Liver with Stomach, Methyltestosterone, Papaverine Hydrochloride, Sulfamerazine, Testosterone Propionate, and P. P. D. Tuberculin. Among the deletions we note Antipyrine, Chloroform water, Bismuth Subnitrate, Codeine (but not its salts), Belladona Plaster, Fluidextract of Ergot, Sodium Cacodylate, Spiritus Frumenti, Spirit of Nitroglycerin, Sufapyridine, Terpin Hydrate, Thymal Iodide, Tincture of Colchicum Seed, and Tincture of Nux Vomica.

Twenty English titles have been changed, usually a matter of simplification and shortening. For instance; Methylthionine Chloride has become Methylene Blue; Bacterial Vaccine made from Typhoid Bacillus is now Typhoid Vaccine; and Theophylline Ethylenediamine is Aminophylline (the name by which it has popularly been known for years). The word "of" has been deleted from the names of the tinctures and the class and specific names have been transposed. For instance, "Tincture of Belladonna" in U. S. P. XII is officially "Belladonna Tincture" now. Tincture of Iodine (seven percent) has been deleted and the official Iodine Tincture is now two per cent.



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The U. S. P. XIII became official April 1, 1947. The format is distinctly more attractive than that of its immediate predecessor. The History of the United States Pharmacopoeia, a section covering 24 pages, is exceedingly well done and very interesting. While a definite statement is not made to that effect, we read between the lines that a Spanish Edition will be issued for use in Latin America, as has been the case with the recent revisions.

All in all this volume is definitely an improvement over its predecessors. It is a veritable mine of pharmaceutical information, a *sine qua non* for every pharmacist, and an invaluable reference work for the physician who would really understand well the individual units in the therapeutic armamentarium he uses in his daily work.

FUNDAMENTALS OF CLINICAL NEUROLOGY—By H. Houston Merritt, M. D., Fred A. Mettler, M. D., and Tracy Jackson Putnam, M. D., Pp. 289, with 96 figures and 8 plates. 1947. The Blakiston Co., 1012 Walnut St., Philadelphia 5, Pa. Price $6.00.

In this small book the authors have built a concise, useful, and remarkably complete text on the nervous system and its diseases. Part I (Chapters 1-8) is a description of the technique of neurological examination, including history, and a chapter on the examination of the comatose patient. Part II (Chapters 9-15) includes discussion of the anatomy and physiology of the central nervous system, and of the effects of disease and injury. The final chapter is an excellent discussion of the cerebrospinal fluid, and includes material on its source and mode of formation, metrods of examination, and the changes which occur in disease.

The book will not replace the standard texts on the diseases of the nervous system, but will be a ready and

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convenient source of review for the busy practitioner. The index is complete and accurate, and the construction of the volume is excellent.—J. J. Lawless, M. D.

* * * *

THE HOSPITAL ACT AND YOUR COMMUNITY—Single copies available free on request to the United States Public Health Service, Washington. Larger quantities may be purchased at 10 cents a copy or $7.50 per hundred from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

If you are interested in the hospital program, authorized last year by the Hospital Survey and Construction Act, this booklet will tell you in simple terms what the act means to you, your community and your state. It should be especially valuable to any group or community that wants to build a hospital but does not know how it goes about getting federal aid for construction.

* * * *

COPPER AND HEALTH—Published and distributed without charge to interested persons by Copper and Brass Research Association, 420 Lexington Avenue, New York 17, N. Y.

Many doubts concerning the role of copper to good health are dispelled in this complete and well-documented brochure.

Written in non-technical language, this booklet disproves a great many erroneous notions that copper is dangerous to human beings. Some of these misbeliefs and superstitions have been prevalent since ancient times.

Among the subjects covered are: toxicity of copper, copper as a nutrient, copper cooking utensils, copper in water supplies, copper in agriculture, and copper in modern medicine.

It is concluded that copper, far from being dangerous to man's health, is one of the most useful metals known to man, physiologically as well as technologically, and that copper is an essential element in the well-being and proper functioning of all life, vegetable, animal and human.

EXPANDED DENTAL FACILITIES NEEDED

The condition of the teeth of our children is still shockingly bad. Surveys show that more than 95 percent of the children reaching age 15 have already experienced some decay in their permanent teeth. It is estimated, moreover, that the fillings necessitated by dental decay are being made at only about one sixth the rate at which the defects arise. Health departments, dental socities, and school administrators should work together to plan for the development of the needed local facilities. On the positive side much more can be done through instruction in dental hygiene and improved nutrition. There is also some promise for reducing the frequency of dental decay either by addition of small amounts of fluorine to community water supplies, or by topical application of sodium fluoride to the teeth of children.—Metropolita Life Insurance Company's Statistical Bulletin.

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One Week Surgery of Colon & Rectum Starting September 15, and November 3.
Two Weeks Surgical Pathology Every Two Weeks.

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OBSTETRICS—Two Weeks Intensive Course Starting September 8, October 6.

MEDICINE—Two Weeks Intensive Course Starting October 6.
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County Society News

BOONE

Dr. Isabel Morgan, director of the division of maternal and child hygiene of the state health department, was the guest speaker at the regular monthly meeting of the Boone County Medical Society, held July 9, at Madison. Her subject was, "The Need for Prenatal Clinics and Well Child Conferences in West Virginia." The paper was discussed by several members of the society.

At the business meeting preceding the scientific program, Dr. Robert G. Williamson, of Madison, was elected a member of the society.

—L. A. Dickerson, M. D.,
Secretary.

* * * *

CABELL

The regular monthly meeting of the Cabell County Medical Society was held July 10 at the Hotel Prichard in Huntington, with Dr. Howard L. Schriver, of Cincinnati, and Mr. Allen Smith, of Chicago, as the guest speakers. Doctor Schriver, a past president of the Ohio State Medical Association and a pioneer in the field of medical insurance service plans, and Mr. Smith, executive director of medical service plans for the A. M. A., discussed "The Physician and Medical Care Insurance Plans."

The annual Doctor-Lawyer "get-together" was held July 11 at the Guyan Country Club near Huntington.

—Thomas L. Grove, M. D.,
Secretary.

* * * *

FAYETTE

Dr. Harry J. Warthen, of the Medical College of Virginia, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held July 1 at the Tech Cafe, in Montgomery. He spoke on the subject of "Diabetic Surgery." The paper dealt principally with surgery of the extremities in diabetics and was most interesting and informative.

At a short business session preceding the scientific program, the society adopted a resolution approving the objectives of the American Association of Physicians and Surgeons.

—Joe N. Jarrett, M. D.,
Secretary.

* * * *

MERCER

Dr. George W. Easley, of Williamson, was the guest speaker at the regular monthly meeting of the Mercer County Medical Society, held June 10 at the Hotel West Virginian, in Bluefield. He discussed the formation

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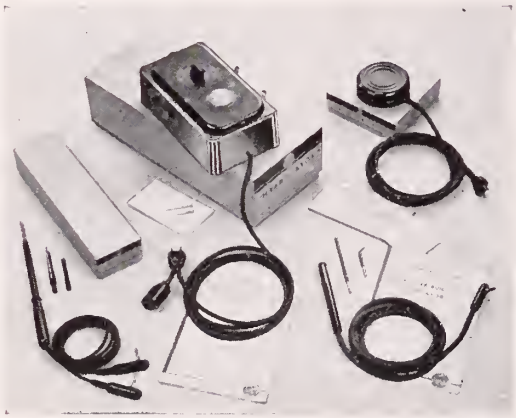

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and functions of the Association of Mine Physicians.

A report of the first meeting of the new National Conference of County Medical Society Officers which was held at Atlantic City during the AMA meeting, was presented by Dr. Frank J. Holroyd, chairman for West Virginia and District No. 2. The meeting was a success from every standpoint and a decision was reached to make the conference an annual affair.

—Frank J. Holroyd, M. D.,
Secretary.

* * * *

OHIO

The Annual dinner and golf tournament of the Ohio County Medical Society were held June 26, at Wheeling. Thirty members participated in the tournament at the Wheeling Country Club, and the dinner at the Jesters Club, on Big Wheeling Creek, was attended by seventy-six members and guests.

The special committee appointed to arrange for the organization of an academy of medicine agreed upon the general structure of the organization at a meeting held in Wheeling, July 2. The name of the new organization will be "Fort Henry Academy of Medicine." A program is being arranged for the ensuing year.

—James D. Bird, M. D.,
Secretary.

* * * *

RALEIGH

Dr. Hallie Isabel Morgan, Director of the Division of Maternal and Child Health, State Health Department, was the guest speaker at the regular monthly meeting of the Raleigh County Medical Society, held June 19, at Leslie's Diner, in Beckley. Doctor Morgan spoke on the subject of infant mortality in West Virginia, srtessing the extremely small appropriation per capita for the work of her division. She asked the cooperation of all doctors in obtaining proper recognition of the work of the division, and the appropriation of sufficient funds to conduct a state-wide program.

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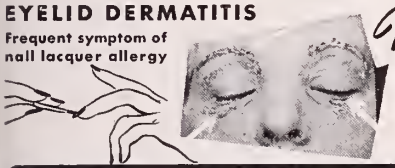

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At a short business session held preceding the scientific program, Dr. Robert J. Smith and Dr. Meryleen Bailey, of East Gulf, were elected to membership, the latter by transfer from the Mingo County society.

Dr. Frank J. Moore, of Killarney, was elected to honorary lifetime membership in the society. Previously, at the meeting held on May 22, Dr. Charles Emmett Davis, of Beckley, was elected a member in the society.

—W. Fred Richmond, M. D.,
Secretary.

ESSAY ON ANATOMY

The assignment for the sixth-grade hygiene group was a composition on anatomy. One promising lad submitted this masterpiece:

"Your head is kind of round and hard, and your brains are in it and your hair on it. Your face is the front of your head where you eat and make faces. Your neck is what keeps your head out of your collar. It's hard to keep clean. Your shoulders are sort of shelfs where you hook your suspenders on them.

"Your stummick is something that if you do not eat often enough it hurts, and spinage don't help none. Your spine is a long bone in your back that keeps you from folding up. Your back is always behind you no matter how quick you turn around.

"Your arms you got to have to pitch with and so you can reach the butter. Your fingers stick out of your hand so you can throw a curve and add up rithmatick. Your legs is what if you have not got two of you cannot get to first base. Your feet are what you run on, your toes are what always get stubbed.

"And that's all there is of you except what's inside, and I never saw it."—Ripco Ripples—Bulletin, Hennepin County (Minn.) Medical Society.

GROWTH OF EXACT SCIENCES

During the last half-century the exact sciences have shown an amazing growth; there is every reason to suppose that their active growth will continue, though perhaps the advances cannot be expected to maintain during the next fifty years the dramatic and revolutionary quality which has marked the progress of these sciences during the first half-century.

A feature of the second half of the century that is widely expected to be without any precedent in the history of mankind, however, is the application of the results of research in the pure sciences to the needs of man, and the ultimate fulfilment of the promise of a world of leisure and plenty. Parenthetically, no biologist can be blind, though it is a convention to pretend to be, to the obstacles in the way of a realization of these hopes—the prerequisite changes in the structure of society and even in the nature of man himself—for history shows that the pains of war, like those of labor, are soon forgotten under the compelling force of primal instinct.—C. Lovatt Evans, D. Sc., in The Lancet.

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SURGICAL PATHOLOGISTS NEEDED

There is today in this country a great shortage of surgical pathologists and of funds with which to pay them. They are keymen in a cancer clinic. Surgeons and radiotherapeutists gain their income from private practice, but the surgical pathologist is traditionally an employee of the hospital in which he serves, and his salary is notoriously inadequate. Hospitals in which there is no surgical teaching tend to skimp or do without pathology. Men of ambition and talent will be attracted to the specialty only when there is promise of better salaries.

If I were asked today what single kind of subsidy on the part of the Federal government would do most to improve cancer therapy throughout the country, I would say "A fund providing fellowships to train surgical pathologists, and adequate salaries for men properly trained in the specialty, in key hospitals in every community." The cancer clinics which are springing up everywhere now-a-days would be tremendously helped by this kind of subsidy for surgical pathologists.—C. D. Haagensen, M. D., in Bulletin of the New York Academy of Medicine.

OB. AND GYN. CLINICS IN LOUISVILLE

The Louisville Obstetrical and Gynecological Society has extended an invitation to the members of the West Virginia Obstetrical and Gynecological Society to attend clinics in Louisville, September 22-24. The West Virginia headquarters will be at the Brown Hotel. Full information concerning the clinics may be obtained from Dr. H. G. Steele, chairman, Pilgrimage Committee, 301 North Street, Bluefield, West Virginia.

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NEW SUPERINTENDENT AT HUNTINGTON

Dr. Edward F. Reaser, of Huntington, has been appointed superintendent of Huntington State Hospital (mental) to succeed Dr. C. T. Taylor, resigned. Doctor Taylor has served continuously as superintendent since his appointment to that office in 1933 by former Governor H. G. Kump. Doctor Reaser's appointment was made by Governor Clarence W. Meadows, effective August 1.

Doctor Reaser is chief psychiatrist in charge of the mental hygiene clinic at the VA regional office in Huntington. Previously, he was assistant superintendent at Huntington State Hospital, resigning in November, 1947, to accept the position with the VA. He is a native of Glenville, and received his M. D. degree from the Medical College of Virginia in 1930. He is a diplomate of the American Board of Psychiatry and Neurology, and is a member of the American Psychiatric Association and the Medical Society of St. Elizabeth's Hospital.

THE "WHY" OF A CONVENTION

Not long before leaving for the AMA Convention I was asked by a young doctor if I really felt that attendance at medical conventions was worth the trouble. I imagine most of us have at some time asked ourselves the same question and probably got a variety of answers back depending on the time, season, proximity of a convention, either past or anticipated, and a variety of other ponderables and imponderables.

My answer was that I felt they were worth while for several reasons, not the least of which was that it gives you moral support to find that the leaders of any branch of the profession are beset by the same problems and perplexities that affect us all and for the most part they have no better solutions than the rest of us. It is interesting, too, at times to observe that in some instances when they feel they have the answer, their statistical results are inferior to yours, using some solution you haven't had the temerity to publicize.

There may seem to be an element of repetition in medical conventions but the repeated and continuing discussions of certain subjects not only serves to emphasize their importance, but indicates a determination to find the answers and disseminate them for the benefit of all.

Scientific exhibits exemplify the adage that one picture is worth a thousand words and offer an opportunity to acquire in a short time knowledge that could only be obtained from many hours of reading. Then comes the technical displays that bring together a wide variety of equipment, supplies, technical advances, books and drugs affording an opportunity for questions and comparisons that can be accomplished in no other way.

I also told my young friend that although you often leave a convention feeling that you haven't accomplished much, actually the observations and contacts so made are far more important than you realize at the time and it's easy to see in a general way that either the leaders of the profession are rather regular attendants at conventions or the regular attendants become the leaders, and either way it's good.—Charles W. Pavey, M. D., in Bull., Columbus Academy of Medicine.

PG COURSE IN DISEASES OF CHEST

The American College of Chest Physicians is sponsoring a second annual postgraduate course in diseases of the chest to be held during the week of September 15-20, 1947, at the Municipal Tuberculosis Sanitarium, Chicago, Illinois.

The emphasis in this course will be placed on the newer developments in all aspects of diagnosis and treatment of diseases of the chest. The course will be limited to 30 physicians. Tuition fee is $50.00.

Further information may be secured at the office of the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

MORTALITY STILL HIGH IN RHEUMATIC FEVER

Among the diseases, rheumatic fever stands at the head of the list of causes of death among children 5 to 14 years. Even so, the deaths from this disease in childhood are only a fraction of the toll of human life that the affiiction takes. Rheumatic fever of childhood origin is responsible also for a major part of the mortality from heart disease in the early and middle adult years. Fortunately, considerable progress has already been made in reducing the ravages of rheumatic fever. It is likewise encouraging that research on various phases of the disease has been stimulated and intensified in recent years.

Although the cause of rheumatic fever is yet to be definitely established, the early detection and the more adequate treatment of cases will undoubtedly further reduce the toll of death and disability which it inflicts both on children and adults.—Statistical Bulletin, Metropolitan Life Insurance Company.

ANXIETY DREAMS

The application of psychiatric principles in medicine has scarcely been explored. For instance, the significance of anxiety as expressed in dreams may often explain common disorders of the heart beat. The person who awakens frightened because of palpitation due to paroxysmal tachycardia, ectopic beats, and possibly paroxysmal auricular fibrillation, is suitable soil for the development of a cardiac neurosis, and if such attacks are frequent or of long duration, there is every possibility that structural damage to the heart may ensue.

What is the role of anxiety dreams in the production of excessive gastric secretions? Does epigastric pain occurring so often in the early morning have any relationship to anxiety during sleep? Does the heart laboring against arterial hypertension fail to get much needed rest during sleep, because of anxiety dreams? Every internist should be aware of the significance of dreams and their implications as personality or toxic factors.—E. A. Stephens, M. D., in Hawaii Medical Journal.

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SPECIALIZATION IN SURGERY

In generations past it was easy to find a surgeon who, on the same day, would remove hemorrhoids, tonsils, gallbladder, and thyroid, perform a colon operation, operate upon a stomach, and perhaps remove a uterus for good measure. Such diversified activities are now rarely necessary or advisable.

The modern surgeon is not a manual laborer whose task ends and begins with the operation itself. Surgical diagnosis and strict attention to preoperative preparation and postoperative care have become equally important to technical ability. Button-hole incisions and clap-dash, speedy operating have been replaced by careful dissections with the emphasis on the gentle handling of tissues and not "get in and out fast."

Few mourn the passing of the universal specialist, but perhaps he is more desirable than the surgeon whose hands can only obey his brain in an area circumscribed by a mental-anatomic boundary.

Who then shall perform this or that operation? Where should the line of specialization be drawn?

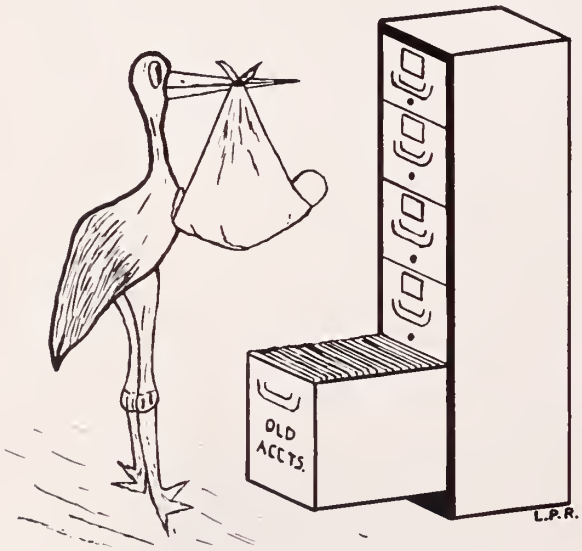
Those who accept the grave responsibility of the care of the sick and injured should ask themselves—is there available for this problem a surgeon better qualified than I? Reference and acceptance of a patient under these circumstances will bring to the public the real benefits of specialization and none of its handicaps.—Brian Blades, M. D., in Medical Annals of the District of Columbia.

COUNTY SOCIETY THE CONTACT POINT

The county society is the best contact point between organized medicine and the public; and between organized medicine and legislator. Almost every congressman, assemblyman and senator in the country has as his personal health adviser a member of some county society. The local newspaper, the small business man, the school teacher, the town banker, the labor union executive, and the housewife, all of these people—our "public"—are obviously in closer contact with the county society officials than they are with the state and national organizations. If, as it is said, democracy has grass roots, then in the hierarchy of organized medicine, the county society is right at those roots.—J. Med. Soc. of New Jersey.

PSYCHOTHERAPY STRIDES FORWARD

In civilian life psychiatric practice has undergone a great change in the past decade. Today's successful sanitarium does more than merely supply isolation from the irritations of a highly geared, competitive world. It furnishes specific therapies, most of which have been developed and perfected during the past ten years. We have in mind insulin coma, metrazol convulsive therapy, and electroshock treatments. Surgery has contributed the operation of prefrontal lobotomy. Work in mental hospitals has now become more interesting because there is an added incentive to apply these promising modern technics to patients, to the end that they may be cured and discharged in the shortest possible time.—A. E. H. in The Journal Lanset.



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PSYCHOSOMATIC CONCEPT VALID

Although the role of mental and emotional factors in disease has been recognized since the early days of medicine, it is only within the last twenty years that psychosomatic medicine has been treated as a scientific discipline. Even before medical science recognized the close interrelationship between psychic phenomena and somatic disease, the idioms of our language indicated man's appreciation of how a mental state can reflect itself in body function.

If a person through care or worry about something developed occipitalnuchal tension with ensuing pain, the situation was said to "give him a pain in the neck"; if one were emtionally disturbed over the death of a dear one "his heart was broken"; a revolting spectacle "turns one's stomach"; a timid soul "has no guts"; a source of constant annoyance "gets under one's skin," a startling disclosure "knocks your eye out"; a bit of unexpected news "takes your breath away," and the highly provoking situation "makes your blood boil" (elevates the blood pressure). In other words, long ere the scientific world eliminated from medical thinking the dichotomous concept of man, common man himself through the development of idioms in his speech testified to the unity of mind and body.

Recent physiological research has shown that changes in the body which are associated with emotional stimuli are bascially changes in temperature, electric potential and chemical composition. The neural pathways over which an idea may rise to a physical symptom, such as blushing, increase in heart rate or "watering of the mouth" are now well known. Years of research and the study of thousands of patients have swept away all doubt as to the validity of the psychosomatic concept.—Gordon R. Kamman, M. D., in The Journal-Lancet.

VITAMIN RESEARCH

The modern era in vitamin research began with the availability of pure vitamins—either as the naturally isolated substance or the synthetic product. From then on, knowledge of the chemistry and physiology of the vitamins grew at a phenomenal rate. More vitamin discoveries have been made in the past decade, particularly in the past few years, than during all the other years of vitamin research.—Borden's Review of Nutrition Research.

NUTRITION IN HEALTH EDUCATION

Eating should be a healthful pleasure, not a laboratory experience. It is not necessary for every American to know how many micrograms of vitamin A are contained in his breakfast. The laboratory investigator must continue to expand detailed knowledge, but when the nutritionist presents these findings to the teacher, the nurse, or the general public the details ought to be placed in their true perspective in conjunction with other facts. The knowledge that is conveyed to the ultimate consumer should be dealt with as food values rather than as items in the pharmacopeia.—Adelia M. Beeuwkes in Nutrition Reviews.

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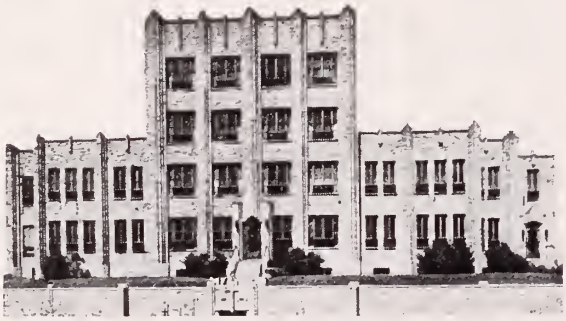

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SOME HEADACHES AMENABLE TO SURGERY*

By LYLE GAGE, M. D.,
Bluefield, W. Va.

Headache, although it is but a symptom, so often is a warning or an accompaniment of serious illness that its choice as a subject for this oration seems justified.

The radio recommendation that the listener perform gymnastic miracles with a headache by taking some sponsor's remedy now usually is accompanied by the advice that he had better see his doctor if the headache persists or recurs frequently. If the listener takes that advice we doctors immediately are confronted with both opportunity and responsibility. We must be on our toes to sift from the stream of over-worked, worried, and constipated patients, those persons with more dangerous conditions which demand more heroic treatment.

We are all acquainted with the occasional headaches which occur due to loss of sleep, fatigue, noise, overeating, late highball drinking, or poor ventilation. Such headaches are normal responses to poor living conditions and we should not consider them as symptoms of disease. On the other hand, when a patient who apparently has lived a normal hygienic life complains of recurrent headaches, seek the cause.

Headaches may be caused by referred pain from elsewhere in the body, from the skin, muscles, blood vessels and nerves of the scalp, and from the pericranium, the eyes, the ears, the perinasal structures, and the teeth. Impulses from these areas are felt chiefly through the afferent branches of the fifth, ninth, and tenth cranial nerves and the first and second cervicals. The bones of the skull and the dura are insensitive, but the blood vessels within them, particularly the middle meningeal arteries, are sensitive to various stimuli. The piarachnoid and the brain itself are insensitive to mechanical stimuli, but the dural sinuses are sensitive to pressure, traction, heat, and electrical stimulation. The maximum sensitiveness within the head is in the region of the vessels, particularly the dural sinuses, the middle meningeal arteries, the internal carotid arteries, and the middle cerebral arteries deep in the Sylvian fissure. Stimulation of the sensory nerves within the skull also causes pain and headache.

In the study of a patient complaining of headache one should rule out the more serious causes first, and if these are not found, consider the less serious conditions. Figure 1 shows an alphabetical listing of some systemic and local causes of headache. A glance at this list will, I hope, increase your interest in headaches as it has mine.

Headache, as Wolfe says of pain, is a dual experience made up of the perceptual plus the inborn reaction. A headache may seem only a nuisance to a hardy patient with a high pain threshold, or it may lead a nervous, sensitive person to contemplate suicide. Yet the important point for us to remember is that it is not the headache which kills people, but the underlying abnormal condition causing it.

*Oration in Surgery presented before the 80th Annual Meeting of the West Virginia State Medical Association, at Charleston, May 12, 1947.

The characteristics of a headache sometimes are important in determining its cause. The deep, steady, boring, predominantly occipital pain with stiff neck found in meningitis is essentially different from the recurring morning attacks of bursting headache often encountered with brain tumors. The throbbing hemicranial migraine headache with scotomata, the frontal and temporal headaches of hypertension, the unilateral, throbbing night headache of histamine cephalalgia, and the pulsating pain over the sides of the head due to temporal arteritis, are characteristic of headaches of vascular origin. Yet we must never forget that the headache secondary to an expanding lesion within the skull often may simulate nearly all others.

CAUSES OF HEADACHE

Systemic

1. Acid Base Disturbance
2. Acute Infections and Exanthems
3. Allergic Reactions
4. Blood Diseases and Blood Vascular Dysfunction
5. Chronic Infections
6. Constitutional Inadequacy
7. Endocrine Imbalance
8. Gastro-intestinal Dysfunction and Infestation
9. Hypertension
10. Malignancy and Tumors in General
11. Migraine
12. Nephritis and Nephrosis
13. Poisons and Intoxications
14. Protazoon Infestation
15. Psychological Disturbances

Local

Congenital Malformations
Inflammations
Myalgias
Neuralgias
Trauma
Tumors
Vascular Disturbances

Fig. I

Needless to say, the study of a patient with *persistent* or *recurrent* headache requires a careful, complete history and a comprehensive examination. Basic laboratory investigation should be made and every such patient deserves an x-ray of the skull. Visual field charts, audiograms and vestibular tests, spinal fluid examinations, and pneumo-encephalograms may be classed as examinations for the specialist only, but present day facilities make such studies possible for all patients who need them. The use of the ophthalmoscope should be a part of every doctor's routine. Any of us can diagnose the cause of a headache in a patient with well developed systemic disease, tumor, abscess, hypertension, or subdural hematoma, but it is to be hoped that we are now so sensitized to the possibility of persistent headache being due to space-taking lesions within the skull, that patients with such conditions will be diagnosed early and sent to clinics where neurosurgical investigation can determine and carry out the necessary treatment before the lesion has caused irreparable damage or become unmanageable.

With the help of some lantern slides I want to report some cases of headache illustrating a few of the causes that are amenable to surgery (figure 2).

Often we are unaware of the full significance of a patient's headache until other symptoms appear. Vertigo, for example, may be a symptom of pregnancy, anemia, or a hangover. It may mean Meniere's disease, arteriosclerosis, vestibulitis, or a post-traumatic syndrome, but when it accompanies a persistent headache it may be due to a tumor. The timely removal of the tumor will stop the headache and other symptoms.

Mrs. F. C., aged 35 years, was admitted to the hospital June 9, 1935 complaining of extensive and prolonged menstrual flow for six months. She also complained of some weakness, dizziness, and headache. On March 24, 1941 she again reported complaining of frontal and occipital headache, slight dizziness and unsteadiness. Sinus trouble and eye trouble were ruled out, serology was negative, neurological examination was negative and because of associated menopausal symptoms she was given Theelin. In May 1941 she returned to the hospital because of headache, vomiting, and dizziness, but still no definite cause could be found, and she was given seda-

SOME CAUSES OF HEADACHE AMENABLE TO SURGERY

I. **Intracranial**
   a. Tumors
   b. Chronic Subdural Hematomas
   c. Abscesses
   d. Cranial Defects and Acute Hematomas

II. **Post Traumatic Cerebral Syndrome**
   a. Meningo-cortical Adhesions
   b. Irritation of Suboccipital Tissues and Spasm of Cervical Muscles

III. **Neuralgias and Myalgias**
   a. Neuralgias—Occipital, Supraorbital, Sphenopalatine
   b. Myalgias—Cervical

IV. **Vascular**
   a. Temporal arteritis
   b. Hypertension

Fig. II

tives. She returned in June 1941. An elevated spinal fluid pressure was found and ventriculogram was carried out which showed a symmetrical dilatation of the ventricles. A suboccipital craniotomy revealed a cyst in the left cerebellar lobe with a small mural nodule of tumor, apparently an astrocytoma. The patient's condition became unsatisfactory on the table, but the tumor nodule was partially removed and the cyst evacuated. This cured her headache. In January 1942 the cyst had refilled and was aspirated. On May 7, 1942, because of a recurrence of headache and some visual disturbance, the incision was reopened. There was a refilled cyst extending up through the cerebellum from the brain stem. The mural nodule was this time completely removed and the cyst destroyed by cautery. She made a satisfactory recovery from the operation and is still well and without headaches.

E. K., a colored waitress of 27, reported on Oct. 27, 1941 with the complaint that she had been having generalized headaches for a long time and had taken many medicines for them. A month before admission she had noticed a beginning weakness in the left leg and some difficulty in seeing. Moreover, she could no longer carry trays. Just before admission she had also been aware of occasional dizziness. The headaches persisted or recurred nearly every day. She had an early papilledema and slight loss of vision. A ventriculogram showed dilatation of the lateral ventricles and the third ventricle. An intramedullary ependymoma was removed from the center of the medulla oblongata beneath the arch of the foramen magnum. This had bulged upward enough to block off the cerebrospinal fluid pathway and thus produced the headaches. Following the operation the patient was free from headache and she returned to her work as a waitress. This patient's vision had not been measured and the doctor who had treated her with medicines had not looked in her eyes with an ophthalmoscope.

We should always look for eyeground changes. Headaches too often are attributed to associated eye trouble without following through and determining the exact cause of the eye trouble. Symptoms typical of migraine, including the unilateral headache, flashes of light, scintillating scotomata, and relief with vomiting can come from a brain tumor.

G. S., aged 30, was first seen on August 16, 1941 complaining of having had headaches for a year. More recently he had noticed intermittent attacks of dizziness, swimming in the head, and seeing little stars. The headache was on the left side, but the little stars seemed to be on the right. There was a history of a minor head injury, but there was no history of nausea or vomiting until two months before admission when the headaches had become more severe and the attacks of dizziness and eye symptoms were pronounced. Then vomiting relieved his headaches. Glasses had been fitted without an examination of the visual fields. Neurological examination showed a complete destruction of the right upper quadrant of both visual fields. The remainder of the neurological examination was within normal limits, but an x-ray of the skull showed that there was calcification in the left temporal lobe, and a ventriculogram showed a marked shift of the ventricles to the right. (All patients with persistent or recurrent headaches should have an x-ray of the skull.)

A left temporo-occipital craniotomy was carried out and a large amount of tumor, some of it containing calcium, was removed, but it was necessary to leave tumor tissue near the brain stem anteriorly. The tumor was an oligodendroglioma. Following the operation the patient returned to work as a foreman in the coal mines. His headaches were relieved. In June 1943 he developed acute meningococcic meningitis which he survived satisfactorily. It was later reported to me that he had had a recurrence of symptoms from his tumor, and he died from this recurrence. Yet, he had three years of active work free from headache.

Intracranial tumors of vascular origin and those tumors due to aneurysmal enlargement cause severe headaches and, recently, have been treated surgically with some success. Intracranial ligation of primary contributory arteries and occasional excision of the tumor with or without preliminary carotid ligation have been carried out.

Two patients with vascular tumors of the frontal bone illustrate how headaches vary in degree and importance in different people.

C. S., aged 36, was admitted on April 5, 1946 complaining of a bump on the left forehead. He stated that for 2½ years he had noticed this bump and that recently it had been getting large enough to bother his hat. He reported that the associated headaches had not been really severe but were unpleasant. He was chiefly concerned about the disfigurement of his forehead from the tumor. X-rays showed a rather hazy thickening in the frontal bone which apparently involved both tables of the skull.

At operation a tumor the size of a walnut, with a wrinkled surface about like the nut and equally elevated on the dural and scalp sides, was excised from the skull. Microscopic examination showed a cavernous hemangioma. The defect in the skull was repaired by using vitallium plate. Following the operation, the patient was happy because of the normal contour of his skull and there were no further headaches.

Emma P. (col.), aged 33, with a similar lesion, almost the same size on the right side in the frontal region, reported on June 7, 1946 with the history that following a bump on the head in an automobile accident, three years previously, she had developed a gradual swelling in the right supraorbital region. For the two years previous to admission she had suffered progressively increasing headaches which began in the frontal region and radiated to the occiput, and it was for these headaches that she sought relief. Again we completely excised the tumor and it was a hemangioma with almost identical structure. Following operation the headaches were completely relieved and the patient was pleased with her appearance. In this case the cosmetic result which might be obtained had not been considered before operation. The patient had come to the hospital for relief of her headaches.

Older patients who complain of headaches, who are garrulous, or those who even show signs of mental deterioration and senility, should not be relegated to the scrap heap of incurables without a very thorough investigation. Many such

persons have been found to possess operable lesions, the successful treatment of which has stopped their headaches and removed them from beneath the cloud of acclaimed mental deficiency.

Mrs. O. S., aged 47, was admitted to the Bluefield Sanitarium on September 22, 1946. She had been treated for two or three years because of severe headaches and other symptoms which were allegedly ascribed to the menopause. More recently she had developed rather marked mental symptoms and increase in her headaches, and she had suffered from periodic attacks of fright and

Fig. III

fear which almost amounted to convulsive seizures. Arrangements had been made to send her to a mental institution and this disturbed the family a great deal. Besides, her headaches were so severe that nothing seemed to relieve her pain. Examination showed a definitely demented person, but there was also fullness of the retinal veins, filling of the physiological cups of the optic discs, and a slight cut in the right temporal visual field. There was an increase in spinal fluid pressure, and an increase in the total protein of the spinal fluid. A ventriculogram showed marked shift of the ventricles from left to right, the principal change being in the parieto-occipital region. A craniotomy on September 24, 1946 revealed an infiltrating tumor in the left parieto-occipital region undermining the motor area and extending far down toward the brain stem. Following the operation the patient cleared mentally. Her headaches disappeared except during deep x-ray therapy. Unfortunately, the tumor proved to be a glioblastoma multiforme with poor prognosis, but the removal of the patient's headache and mental symptoms was valuable to her and the diagnosis of tumor rather than insanity was a relief to the family.

Several patients with chronic subdural hematomas operated upon in recent years, fit this picture. The response of these patients to surgical treatment was most dramatic.

A. B. J., an engineer of 64 years, had been in good health up until he began to have headaches in February 1942. The headaches became more severe and were associated with some dizziness and mental confusion. It was thought that he had suffered a cerebral thrombosis, for he developed some aphasia and right hemiplegia. Later a history was obtained of his having bumped his head slightly in November of the previous year. Left occipital and temporal trephinations drained a chronic subdural hematoma and the man is well today.

W. J. O., another 62 year old man, fell on the ice in November, 1945 and bumped his head. He was not unconscious nor apparently injured severely, but a few days later he complained of some generalized headaches. These headaches persisted and became worse. In March his memory began to fail him, he went off to an adjoining town where he stayed in a hotel, his family not knowing his whereabouts. Finally he was returned home, but was considered definitely queer and he was still complaining of headaches. At the end of March, 1946 he developed more violent headaches and a slight left sided weakness. The family considered that he had suffered an apoplectic stroke. Right occipito-temporal and frontal burr holes drained a chronic subdural hematoma and the patient recovered. The headaches are gone and he is mentally clear.

W. J., a man of 54, had been complaining for some time to his companions about the severe frontal headaches which he was suffering, and he finally stopped work because of the pain. He rested at home with no improvement and three months after the onset of his headaches he came to the Bluefield Sanitarium where a slight left sided weakness and partial hemianopsia were discovered. No history of injury was obtained, and as there was no fever or leukocytosis, a tumor was suspected. Figures III

Fig. IV

and IV show the ventriculogram with the characteristic deformity of the left ventricle. A left parietal burr hole drained a large liquid subdural hematoma, and completely relieved his headache and other symptoms.

At operation patients with suspected subdural hematomas are prepared for bilateral trephinations because the blood clots sometimes are on

both sides of the falx. These clots are washed out with Ringer's solution, a drain is left in for two days, and occasionally subtemporal decompression is done if a large clot is found to extend toward the base of the skull. Rarely is it necessary to resort to the use of a bone flap.

The headaches of suppurative sinusitis, mastoiditis, and otitis media always should be given serious consideration. Operations to release pus under pressure in the head should not be delayed too long despite the new antibiotics, but we now can be less radical than before in the removal of bone once the pus is released. The sequalae of these infections, namely, meningitis, brain abscess, and osteomyelitis of the adjacent bones of the skull, are still horrible to anticipate and difficult to treat once they have become established.

Master J. F. H., age 8, came into the hospital in the middle of the night with evidence of intracranial pressure. He had been complaining of severe headaches for five days. His respirations were so poor that bilateral occipital burr holes were deemed necessary before lumbar puncture was attempted. The spinal fluid showed a purulent meningitis and the following morning a pansinusitis and right mastoiditis were diagnosed. Eye, ear, nose and throat consultants decided that the mastoid inflammation was the most likely source of the meningitis and a suppurative, purulent mastoid was drained, then a large amount of pus was washed from the right antrum. Headache and acute symptoms subsided at once, but the slow spread of osteomyelitis from the mastoid region began. It was due to the staphylococcus aureus. Figure V tells

Fig. V

only a part of the story, for this was in the days before the use of penicillin and the progress of the osteomyelitis was never checked. This boy died in status epilepticus on January 14, 1943.

J. C. E., aged 10, was well until June 21, 1935, when he began to complain of frontal headaches. Five days later there was swelling about the left eye. The progress of the swelling was rapid and by June 28 the left eye was bulging. On June 30 the frontal and ethmoid sinuses were opened and drained and on July 6 evisceration of the left eye was done because of the extensive infection in the orbit. His clinical course was stormy and infection followed up under the scalp and drainage was required. Osteomyelitis of the frontal bone occurred and on September 3 a large area of frontal bone was removed. At the same time an abscess in the periphery of the frontal cortex was found. Forty-eight hours later it was drained. It extruded itself and was later removed with the cautery.

Fig. VI

Progress was good until January 1, 1936, when again headaches occurred and the patient had a convulsion. A second frontal lobe abscess was opened. On February 18, 1936 more pus was evacuated from the frontal lobe and the culture showed staphylococcus aureus. Further sequestration took place in the skull and pieces of bone were removed. In 1941 he complained of headaches and convulsive seizures and there was still a small draining sinus at the left nasofrontal angle. On October 22, 1946 an osteomyelitic abscess in the left frontal bone at the site of an old air cell was drained and the pus still contained staphylococcus aureus. This operation relieved his headache. On January 28, 1947 a left frontal lobe scar was excised because of the epileptic seizures. He is now without convulsions, but is still taking some anticonvulsion medication.

Cranial defects which are of sufficient extent to allow wide excursion of the decompression, or which are over one of the sensitive intracranial structures frequently produce headaches severe enough to require repair of the skull defect for their relief.

A. K., a twenty-one year old Marine, was struck in the occipital region by a Japanese bullet during the battle of Iwo Jima. The compound comminuted fracture was cared for in the field and later at a fleet hospital where the wound healed. However, when he came to Bainbridge he still had a depression in the midoccipital region (Fig. VI) and experienced headaches as a result of the free excursion of the decompression with change of posture. It was our opinion that the lack of support in the region adjacent to the occipital falx and the median longitudinal sinus was causing pull upon these structures and thereby producing his headaches. Consequently, a tantallium repair of the defect was carried out on March 20, 1945, following which the headaches disappeared and the patient returned to duty.

Critical judgment and skill are necessary in deciding whether the headaches associated with a head injury indicate that surgical intervention is needed. Not infrequently after an injury a severe localized headache justifies an operation for its relief. A patient with a piece of bone depressed upon an artery or sinus, or in whom there is a hematoma or hydroma requires an operation for relief of the condition. The type of operation must depend upon the condition to be relieved,

Fig. VII

but persistent headache often is a warning that surgery may be necessary.

E. B., age 34, was struck by a trolley pole in the mine on December 31, 1945. He was unconscious but was brought to the hospital within an hour's time. Neurological examination was normal, but x-rays showed a comminuted depressed fracture in the right temporoparietal region, the depression being slightly greater than the diameter of the bone. On regaining consciousness, the patient complained of a severe headache and a burning pain in the right temporal region running up to the vertex on that side. This pain persisted and on January 3, 1946 the depressed fracture of the skull was elevated and some bone fragments removed under local anesthesia. One piece of the comminuted depressed bone was found to be pressing directly on a branch of the middle meningeal artery. As this piece of bone was lifted away the patient stated, "My headache has stopped." When asked if the burning pain was also gone, he replied that it was. During the remainder of the patient's stay in the hospital he had no headaches and he was discharged on January 10, 1946.

C. V. H., aged 34, was walking along in an alley when a brick dropped from a platform four stories up, struck him in the head. X-rays showed a bursting comminuted depressed fracture of the posterior parietal region just to the left of the vault. The line of fracture extended from the anterior fossa to the posterior fossa. (Fig. VII) The patient was able to talk, but somewhat incoherently and complained of headache and difficulty with his right hand. Elevation of the depressed fracture was carried out under local anesthesia. The bone fragments were removed and the subdural hematoma beneath the depression was drained. With the evacuation of the subdural blood, the patient's headache ceased, but beneath the hematoma a rather sharply localized laceration of the brain was found to be associated with a surrounding field of intracerebral hemorrhage. Following the operation, the localized headache was gone.

The post-traumatic cerebral syndrome is a rather complex group of symptoms, the complete cause of which is not clear. Yet the headaches are definite, typically paroxysmal, may be generalized or one-sided, are constant in location, and affected by change in posture, exercise and excitement. They are associated with sudden dizziness, irritability, difficulty in concentration, and intolerance to alcohol. Patients with this syndrome often complain of an attack when they tie their shoes in the morning. There are frequently some psychogenic factors in the mechanism of these headaches, but with the typical syndrome there are found also a localized increase in the sensitivity of the intracranial vessels, meningocortical adhesions, and occasionally some irritation of the suboccipital muscles and fibrous tissues. These latter conditions are amenable to surgical treatment. The use of therapeutic air encephalograms in the treatment of traumatic meningocerebral adhesions has definite value in selected cases. Pockets of air and localized cortical atrophy can be demonstrated in encephalograms of some patients whose post-traumatic headaches were relieved by the air injection.

In performing the encephalograms the patients were placed on an operating room cart inclined to a forty-five degree angle with the part of the

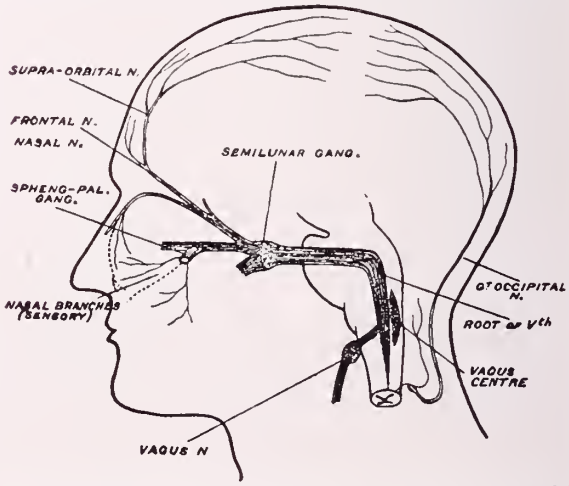

Fig. VIII. Diagram to show the proximity of the sensory nuclei of the fifth and tenth cranial and first and second cervical nerves. (After Pegler.)

patient's head uppermost where the headache was most severe. As much air was used as fluid was removed, or more air when necessary to maintain the initial pressure in the manometer. The patients' heads were then rotated from side to side every ten minutes for an hour.

The group of nontumor headaches which combine occipital and frontal pain with nausea and vomiting has impressed me in recent years, and might be termed the occipitofrontal-vagal syndrome. The pain usually is initiated in the occipital region by a scar, myalgia, or tight cervical muscles from nervous tension or direct trauma. The reflex arcs involved are shown in figure 8. Successful treatment has consisted of novocaine injections of muscle attachments and nerves, excision of scars, and occasionally resection of portions of the muscles or occipital nerves. Tumors first must be ruled out in each of these patients.

On May 8, 1945, Mrs. L. E. P., aged 45, stated that on or about the tenth of April 1945 she began to have rather persistent, throbbing occipital and frontal headaches which had become worse during the intervening period. The headache had frequently awakened her during the night, but was also present in the daytime, and had necessitated the use of headache tablets and codeine. X-rays of the skull were negative. Lumbar puncture and spinal fluid were normal. X-rays of the sinuses were negative and neurological examination was normal. On May 12, 1945 the patient noticed some additional stiffness of her neck and there was nausea and vomiting. Two per cent novocaine injection of the hard, firm muscle attachment at the occipital region relieved the headache and she ate a hearty meal for the first time since the onset.

Mrs. J. W. A., aged 41, was admitted to the Bluefield Sanitarium complaining of occipital headache of six months' duration with exacerbations of sharp pain running forward over the left ear and into the frontal region. In the acute attacks the pain came on suddenly, always on the left side in the lower occipital region, and was accompanied by a feeling as though her neck were swelling. There was a sensation of pressure in the left side of the head on each occasion. Neurological examination, lumbar puncture, and spinal fluid examinations were normal. X-rays of the skull were normal. The location of onset of the pain was centered about a scar in the left nuchal region which was the result of a carbuncle twenty years previously. During one of her headaches an injection of this scar with novocaine stopped the pain and stopped the headache. Excision of the painful scar under local anesthetic found it to extend down to, and including, the muscle sheath through which the occipital nerve perforated. The operation relieved her headaches.

Trigeminal neuralgia has not been included in this discussion of headaches. There are, however, certain atypical unilateral headaches usually with the maximum pain in the peripheral distribution of one of the fifth nerves, or the occipital nerves which only neurectomy or tractotomy will cure. I recently have sectioned the preganglionic portion of the right fifth nerve for such a headache and obtained relief for the patient.

P. A., a twelve year old girl, had encephalitis in April 1929. In 1943 there were some signs of drowsiness, but these cleared up and in January 1945 she had a Bell's Palsy and began to complain of headache. By the latter part of January the headache was severe enough so that she was frequently incapacitated. An air encephalogram showed only moderate cortical atrophy with no abnormality of the ventricular system. After the encephalogram she still complained of the headache which she claimed was chiefly on the right side at the vertex of the skull. With exacerbations of pain her right eyebrow would elevate, and she would hold the right side of her head. Impacted molar teeth were removed without relief of the headache, but novocaine injection of the right supraorbital nerve, during an acute attack, relieved the pain. Right supraorbital avulsion on June 6, 1946 relieved the headache for 3½ months, or until some regeneration took place. There had been no definite tenderness over the course of the supraorbital nerve, no herpes had appeared, and the clinical picture was not typical of a true supraorbital neuralgia. However, by January 1947 she was again suffering severe headaches at the vertex, at times sufficient to keep her in bed. On March 25, 1947 preganglionic section of the right fifth nerve was done and the patient has had no more of the headaches since that time.

The unilateral headaches of so-called sphenopalatine neuralgia, geniculate neuralgia, and pertosal neuralgia occur chiefly in the malar and temporal regions with associated pain around the ear, toward the eye and deep into the face and throat. They may be of parasympathetic origin for often there is engorgement of cutaneous vessels, lacrimation and nasal congestion on the side of the pain. The acuate pain often is relieved by anesthetizing the middle turbinate, but occasionally cocainization or alcoholic injection of the sphenopalatine gangion, or resection of the greater superficial petrosal nerve may be necessary for relief.

The headache of temporal arteritis is pulsating, throbbing, and often burning up over the temporal region to the vertex of the skull and the area involved frequently is tender to the touch. Compression of the temporal artery in front of the ear sometimes stops the acute pain. The mechanism of production of this headache is inflammation or inflammatory irritation of the temporal arteries and the periarterial tissue. The pain often is worse at night and occasionally constitutional signs are present. The treatment of temporal arteritis consists of high doses of thiamine and resection of a small portion of the involved artery. This not only stops the pulsation, but also interrupts the autonomic nerve fibres to the distal arterial tree. The results from surgical treatment of this condition are pleasing to both patient and surgeon.

The headaches of hypertension are believed to be the result of dilatation and distention of certain branches of the external cartoil arteries. They are throbbing, usually frontal or frontotemporal, often present in the early morning and improved late in the day. They are made worse by coughing, sneezing, and straining.

The surgical treatment of hypertension still is subject to debate, and its discussion here must of necessity be limited. Our practice is to select patients for operation who are not over age 55, who do not have excessive nitrogen retention in the blood, or fixed urinary specific gravity. We prefer that they do not show excessive arteriosclerosis in the retinal vessels and they must respond to 7.5 grains of sodium amytal intravenously by a reduction of blood pressure at least to below 200 mm. of mercury systolic and 100 mm. diastolic. We use the Smithwick operation removing all the splanchnic nerves as high as possible above the ninth thoracic level and the semilunar ganglion below the diaphragm. The sympathetic chains are removed from the ninth thoracic ganglion, or above, down through the second lumbar segment, and any large fibers going to the adrenals are removed. Our series of patients is small and the results are about as reported by other clinics using this operation. We find a pleasing relief of the patients' headaches, but occasionally not so pleasing maintenance of blood pressure at too high a level.

In summary, the causes of many headaches may be removed surgically. Some of these causes, if not removed, result in death. The responsibility for the selection of patients whose headaches are suitable for treatment by surgery falls first upon the shoulders of the general practitioners than whom we could choose no better selectors.

TREATMENT OF POLIOMYELITIS

For the past thirty years the main feature in the treatment of poliomyelitis has been considered to be the reeducation and training of weak and paralyzed muscles. This was done by some workers as soon as pain and soreness of the muscles had ceased, by others after longer periods of immobilization. Nearly all workers used some form of heat. Moist heat, radiant heat and warm baths were used through the years. The reeducation varied from that used at present mainly in that it was not done as extensively, and greater attention was given to prevention of fatigue.

If the experimental studies on denervated muscles are correct, the great emphasis placed on the prevention of muscular fatigue after the acute stage of the disease may not be the important element. The clinical results tend to indicate that prolonged immobilization was not rational. Likewise stretching the muscles in the early stages of the disease apparently is not as dangerous as was believed although strenuous stretching of contracted muscles of old poliomyelitis patients may be dangerous. The use of hydrotherapy in the form of therapeutic pools still remains an important adjunct in the treatment of poliomyelitis when properly supervised.—Earl C. Elkins, M. D., and K. G. Wakin, M. D., in J. Iowa State Medical Society.

DIARRHEA*

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Diarrhea — its diagnosis, prevention and treatment — is the cornerstone upon which the specialty of pediatrics first was built. The success with which the problem has been attacked is proven by the fact that in New York City infant mortality from gastro-intestinal disease has been reduced from 31 per cent in 1889 to 8.8 per cent in 1938.[1]

The etiology of diarrhea may be said to include the following factors:

1. Infection of the bowel by organisms such as typhoid, Salmonella and dysentery (these are the commonest, but others have been suspected). Viruses probably cause much trouble also.

2. Improperly prepared food and food which has undergone bacterial contamination.

3. Parenteral infection such as otitis media and pyelitis (this undoubtedly is a factor but the pendulum is swinging away from the belief that parenteral infection is one of the commoner causes of diarrhea).

4. Hot weather. The manner in which hot weather causes diarrhea is by depressing the efficiency of the digestive tract.

5. Allergy. Some of the stubbornest cases of diarrhea remain uncontrolled until the question of allergy is considered and proper elimination diets prescribed.

The clinical types of diarrhea are well known to every practitioner of medicine. They range from mild cases in which a few loose stools are the only evidence of disease, to the severe dehydrating acidosis producing diarrheas that kill in a short time unless heroic measures are used.

In treating a patient with diarrhea, there are several questions which the attending physician must bear in mind:

1. Is the diarrhea infectious or nutritional? The question may be difficult to answer. Stool culture would seem to give the answer. However, stool cultures are notoriously unreliable. We see many cases of dysentery at autopsy that had negative stool cultures. It is best to treat diarrhea as a very contagious disease.

2. Is dehydration present? This is best determined by the weight loss and the feel of the skin.

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3. Is acidosis present? This is most accurately determined by the CO_2 combining power of the blood. However, blood chemistry studies are hard to get in an emergency and we have to depend on clinical observation. The outstanding features of acidosis in diarrhea are dyspnea and a toxic appearance.

The treatment of diarrhea may be considered under three headings: feeding, drugs, and replacement therapy.

1. *Feeding.*— The most important point about feeding is to starve the child at first. The length of the starvation varies from a few hours in mild cases to several days in severe ones. The starvation period is not so important in the treatment of infectious diarrhea such as dysentery. Some physicians feel that it is not necessary at all in such a case because there is a bowel infection present which must run its course, and thus starvation will do no good. Certainly food should not be given in a case of nutritional diarrhea until the stools look more normal and have lost their watery appearance. During the starvation period all food elements must be replaced as will be described under replacement therapy. The foods considered most digestible and therefore the first foods given are buttermilk, boiled skim milk, protein milk, breast milk, and ripe mashed banana. Most physicians prescribe ½ ounce of any one of the aforementioned milks every three hours to begin with, and increase the amount by ½ ounce a day until the caloric requirements are met and the child is satisfied. Others let the infants have as much food as they want after the starvation period and trust to the infant's appetite to regulate the amount taken. The latter view seems radical and yet it works out very well.

2. *Drugs.*— There are two or three drugs that are helpful. The rest are a waste of time. The sulfonamides are of benefit. They seem to have a direct effect on the bowel infection and are helpful in cases in which there is parenteral infection, e. g.: otitis or pyelitis, also. Sulfathiazole and sulfadiazine are just as effective as sulfaguanidine or sulfasuccidine. Pectin forms soft, gelatinous balls in the bowel that slow down peristalsis. "Certo" is a popular form of pectin of which 2 or 3 teaspoonfuls a day can be given in the milk. Paregoric is helpful in tenesmus. Bismuth and Kaolin mixtures are good in mild cases in which medication is given largely for its psychologic effect. At times penicillin is helpful.

3. *Replacement Therapy.*— This is the life saving part of the treatment of severe diarrhea. In mild cases it can be carried out by mouth at home. In severe cases it taxes the facilities of the most modern children's hospital.

What are the elements which must be replaced? Water, electrolyte, protein, glucose, and vitamins.

Infants require 2½ to 3 ounces (75-90 cc.) of water per pound of body weight every twenty-four hours to maintain water balance. Water can be given by mouth if it is not vomited or shot through the bowel too fast. Otherwise it must be given by needle, either intravenously or subcutaneously.

The most important electrolyte in the blood and intercellular fluid is sodium chloride. The most important electrolyte in the intracellular fluid is potassium chloride. Some physicians think that if sufficient sodium chloride is given it will not be necessary to give potassium chloride. Others think that Ringer's solution which provides sodium and potassium chloride in the concentrations in the blood is better. Darrow[2] recently has published his results in the treatment of diarrhea with large doses of potassium chloride. He was able to reduce his mortality from 30 per cent to 6 per cent. Dodd[3] has shown that calcium administration is helpful in severe cases.

The usual dose of saline or Ringer's solution when the whole amount has to be given by needle is about 1/10 of the body weight every twenty-four hours, e. g.: a ten pound baby would require 1 pound or 1 pint or 500 cc. of saline every twenty-four hours. More sodium chloride than this may cause edema.

In acidosis some form of alkali must be used. If facilities are present for prompt blood chemistry determinations, sodium bicarbonate can be used. However, unless such facilities are available it is dangerous to use sodium bicarbonate in large doses because of the danger of alkalosis. A much safer drug is sodium lactate. This is a combination of a strong alkali and a weak acid. Also, the acid radical is metabolized and excreted by the lungs, thus throwing less work on the overburdened kidneys. Some physicians believe that sodium lactate can be given in unlimited quantities without producing alkalosis while others feel that there is a limit to the amount that can be given safely. All agree that it is a much safer drug than sodium bicarbonate. Sodium lactate is marketed in 40 cc. ampules and when diluted with the proper amount of distilled water can be given intravenously or subcutaneously.

One intravenous injection will raise the CO_2 combining power 20 to 25 volumes present.

Protein should be replaced in diarrhea. Its loss is considerable. It can be given as the amino acids, or plasma, or blood. The quantity of protein recommended is 1 Gm. per pound of body weight in twenty-four hours.[4] A convenient form of the amino acids is *Amigen* (Mead-Johnson). It is put up in flasks and combined or not with glucose. Plasma is the safest form of protein to use intravenously, and is the protein of choice unless the red blood count is low. Blood is used if the red count is low. Blood is never used until the patient is hydrated. Administration of blood to a dehydrated patient is much more apt to cause reaction.

Glucose is our chief source of calories when babies must be fed parenterally and is a valuable adjunct when feeding is limited. It is given in 5 per cent concentration. It is useless to give stronger solutions than this intravenously because most of it is lost through the urine.

The only bad effect from glucose is diuresis. Most physicians give at least ½ of the total intravenous fluids as glucose which will provide 18 to 20 calories per pound of body weight. Even with 5 per cent glucose a great deal is lost in the urine.

Vitamins are apt to be overlooked in treating diarrhea. If the disease is of short duration (less than one week) they probably are of little use. However, in prolonged cases we would do well to remember the vitamins. They should be given parenterally because the intestinal tract probably will rush them through too fast to be absorbed. The chief objection to the use of vitamins parenterally is the expense involved.

There are three methods of giving fluids in cases of diarrhea: by mouth, subcutaneously and intravenously. Mild cases get by on oral administration alone. The most preferable fluids are ginger ale, barley water, and tea. Ginger ale is accepted greedily by most infants. The ginger has a constipating effect to some extent and there is a sugar content of about 10 per cent. Barley water contains some sodium chloride and is constipating. Tea is recommended in all textbooks but I have found very few infants who would drink it.

The quantity of fluids by mouth may be unlimited in mild diarrhea, but as the disease becomes more severe less should be given by mouth and more by needle. When dehydration becomes manifest we usually try subcutaneous glucose or saline once or twice a day. The dose is 10 to 15 cc. per pound of body weight for each injection. In cases in which diarrhea is severe and accompanied by toxic symptoms or impending acidosis we give all fluids intravenously for twenty-four to thirty-six hours. The external saphenous vein ("ankle vein") is the vein of choice because the foot can be immobilized easily and the cannula will stay in. The orders for intravenous fluids by ankle vein for an infant weighing ten pounds would read as follows:

Nothing by mouth while "ankle vein" is running.
Total fluids 900 cc. in 24 hours.
250 cc. 5% glucose in normal saline.
250 cc. 5% glucose.
250 cc. normal saline.
100 cc. plasma.
50 cc. 5% glucose.

We leave the cannula in one vein not longer than thirty-six hours because of the danger of infection and phlebitis. If it is necessary to continue venoclysis longer than thirty-six hours we transfer the cannula to another vein. After the period of continuous venocylsis the infant is started on small amounts of milk, and parenteral fluids are given as subcutaneous injections if and when necessary. The kidneys usually can maintain normal acid base balance but in order to do so they must be provided with an ample supply of water to secrete sufficient urine.

SUMMARY

The treatment of diarrhea consists of feeding, the administration of certain drugs, and replacement therapy. Replacement therapy includes proper and sufficient administration of water, electrolyte, glucose, protein, and vitamins. The methods of administration of these replacements have been discussed.

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Penicillin was found to be greatly superior to sulfadiazine in 238 cases of scarlet fever in the prevention as well as treatment of acute otitis media.—R. N.

The aim of rehabilitation is to bring about the optimum adjustment of each patient in spite of any physical defects, mental deficiencies, emotional weaknesses and social shortcomings that he may have.—Ezra Bridge, M. D., Amer. Rev. of Tub., April, 1947.

PSYCHIATRY AND THE GENERAL PRACTITIONER*

By MARK L. GERSTLE, JR., M. D.,
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I suppose that everyone in medicine who calls himself a specialist of any kind has an inner conviction that his particular branch of the healing art is of considerably greater importance than any other specialty (or at least a great many of us do), and I am frank to state that I am no exception to this rule. It has been a belief of mine for a long time that psychiatry has indeed a very widely applicable significance. Certainly this specialty has come into its own with a spectacular rush, and particularly since the beginning of World War II, it has been continually dispensed to the public in ever-increasing doses. There is hardly a novel, a play, or a movie in which the psychiatric motif is not foisted upon the reader or the audience. There has been an enormous amount of nonsense involved in the process. There is an inflexible tendency shared by most people in the world, particularly those who have not been fortunate enough to have the benefit of scientific training and discipline, to attempt to over-simplify concepts, and this tendency is particularly in evidence when these concepts are basically complex, and, therefore, by their very nature baffling, and, to a great extent, therefore, frustrating. From this treatment of over-simplification, psychiatry undoubtedly has suffered much, but no more so, surely, than the people upon whom it has been thrust.

However, this has not been entirely unfortunate. Despite the chicanery and over-dramatization, this over-popularization, if you may call it that, at least has brought psychiatry into everyone's awareness. Not only is no dinner party or informal social gathering of the so-called intelligentsia complete without psychiatric spoutings and implications, but that nebulous character whom we call the "man in the street" also is quite aware these days that this field of endeavor is medicine's most conspicuous brain-child.

I shall attempt to mention a few points which I hope may be sufficiently provocative to be of some assistance in your professional lives, and if in so doing I am able to emphasize and possibly clarify some rather generally held misconceptions, I shall be amply repaid.

I commend to you a report of an experimental postgraduate course that was given at the University of Minnesota in April, 1946. This course was called, "Psychotherapy in General Medicine." It is well worth reading. One of the matriculates in this course, a general practitioner from a very small town, said, "Although I have unconsciously applied some of the principles expounded by the faculty, it was always in a more or less haphazard manner without any understanding of what I really was trying to accomplish. I found that I had a distinctly antagonistic attitude towards some of the patients for whose complaints I could find no organic basis." A second doctor attending this course remarked, "I no longer feel frustrated at not curing most of my patients and for the first time I feel justified in being contented simply to carry some of these patients along at a level considerably lower than that of a cure." A third doctor said, cynically (but I think sagaciously), "It seems to me my practice used to consist of what I admit now was frequently a fast 'brush-off.' Either I had to give them medicine or I had to give them psychotherapy." There are many other equally revealing comments by some of the doctors who took that course.

One of the most important things to which any doctor is entitled is a certain amount of equanimity regarding his contact accomplishments and even his failures with his patients. His hands often have been tied simply because of his own sense of frustration, and his inescapable irritation at some of his patients actually prevents him in many instances from mobilizing his best therapeutic ability. It has been very wisely said that there is a sort of ladder of accomplishment in medicine, of which the first rung is interest, the second, understanding, the third, skill, and the fourth, judgment. To climb the first and second rungs can and should be an exciting and rewarding experience. The third, skill, is indeed hard fought for, and the fourth, judgment, comes, as we all know, only after long experience. Doctors must be sensitized to emotional problems in their medical practices. We all know without quoting figures or statistics that an extraordinarily large proportion of all patients, as Doctor Biern just mentioned to you, regardless of whether they be surgical, medical, gynecological, or what-not, present a clearly discernible and clearly significant psychosomatic component, and this factor almost always is recognized by every well trained and experienced physician, but unfortunately it frequently is not given the emphasis which is absolutely essential in order that the patient be treated as thoroughly as he should be.

It seems to me there are several rules which every physician, regardless of the exact nature of his practice or interest, can well afford to keep

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uppermost in his mind. The first is the cultivation of an interest, an awareness in the dynamic qualities of the patient as a human being — a biological, chemical, kinetic — not static — organism, with all of the implications of this broad concept. By considering everything which the patient as a person presents and represents (and I think the representation is just as important as the presentation) the doctor then can make the most of his particular inter-relationship with the human being who has sought him out for advice and assistance.

The second point to keep in mind is the broad patterns of human motivations, for although differing enormously in detail, they can, without too much study and time, be resolved into a series of pictures, if you like, each one of which will take on an increasingly familiar appearance as the physician's personal intimacy with each particular constellation increases.

The third point is that we must learn to think in terms of emotional stress. The term, "psychosomatic", needs no clarification, but I think its twin, "somatopsychic", is too often lost sight of.

Lobar pneumonia, or a fractured femur, or a carbuncle, or an infestation of the alimentary tract with intestinal parasites can and does produce specific emotional reactions in its victims. This is such a simple, obvious point that I feel apologetic, almost, about stressing it, yet it has been my experience, probably yours also, that it is something we are prone to take for granted, too often not giving it the attention it most certainly deserves.

The fourth point is that every physician should acquaint himself with easily understandable principles underlying psychiatric diagnosis. In this connection it is necessary that the nonpsychiatric physician keep in mind and be on the alert for the more malignant psychiatric syndromes in order that he properly may refer these patients to a specialist. To elaborate for a moment on this point, it is my feeling that no one but a psychiatrist has the time, for one thing, to do more than skirt the fringes of that portion of his patient's psyche which we designate the unconscious.

It is true that many a well trained internist or general practitioner will be frequently fully aware of some of the dynamics contained in that vast province, but unfortunately, from a therapeutic point of view, mere intuition does not enable the therapist to bring such ideas to his patient in a form in which they will be palatable or even partially digestible. To do so is indeed a laborious and frequently a back-breaking chore and requires a particular technic learned only after considerable training in order that it may be successful. So, in general, I feel that if such exploration of the unconscious is necessary (and not many of you are apt to be fooled about whether or not there is such an indication) such a patient should be referred to a psychiatrist. Nor usually is it possible or practical for anyone but a psychiatrist to cope with psychotics. However, with these two exceptions, there are very few psychiatric problems with which the general practitioner cannot and should not concern himself.

Very often the thing that is actutely needed is a willingness to listen, with genuine and not simulated interest, and that is very important. You have to be really interested. That is something that cannot be faked. If you merely simulate interest, the patient knows it and no good comes of it. You must learn to listen with genuine and not feigned interest, to listen with sympathy, sometimes with pity, but above all else, listen. If nothing else can be accomplished such trained listening causes the patient to feel that there is someone who really is concerned, someone who understands. It tends also to alleviate the patient's miserable feeling of being unique, being singled out, being isolated, and in addition to these beneficial effects, it very frequently relieves the sufferer of much anxiety and guilt.

Those of us who were in the service found that the first thing to do with a man who, fresh from combat, collapsed nervously, thus becoming useless for the time being, was to let that man talk. Sometimes he wouldn't talk, and in that case we had to resort to some synthetic way of making him ventilate. All of you know about narcosynthesis and narcohypnosis. They played an important therapeutic role in the war when conditions were such that the element of time was of the essence and the precipitating trauma was, as a rule, far more devastating than that encountered in civilian life.

At one of the hospitals in New York City I hold the position of liaison psychiatrist to the outpatient department. It has been a fascinating, if not always a rewarding experience. I have gone from clinic to clinic, either at my own discretion or when I am called, from orthopedics to medicine, from medicine to dermatology, from dermatology to gynecology, and I have talked to the specialists in charge of these particular clinics concerning just such matters as we are discussing now. It has been my finding that only on the rarest occasions did the clinician lack any knowl-

edge which prevented him from doing a certain amount of psychotherapy, but, unfortunately, I frequently have been forced to admit that his lack of interest, and particularly his lack of self-confidence in such matters, sometimes has been a serious hindrance. The usual complaint among such specialists is that they lack the time. I worked in general medical clinics for a number of years, long before I even thought of adopting psychiatry as a specialty, and I am quite aware that the element of time is very important, but I really do not feel that this lack of time is ever a bona fide excuse or justifiable evasion. Often the difference between success and failure with a patient actually does not consist of more than five or ten minutes, and I don't care how busy a clinician is, I think he will agree that all of us have spent much more time foolishly.

Just a few words about a problem with which we who are in the field of psychiatry are confronted. I am sure all of you know that there is a serious national shortage of qualified psychiatrists. There are actually fewer than 4,000 psychiatrists in the United States, of which number only 2,400 are certified by the American Board. Not only is there a shortage, but it has been estimated that it is going to take at least ten years to come anywhere near rectifying it. The American Psychiatrists Association has stated that there should be 20,000 to 30,000 qualified psychiatrists to care adequately for the mentally sick in the United States. So the situation is desperate and there is no way of doing anything about it as far as making specialists out of people who are not psychiatrists. Therefore, whether we like it or whether we don't, it is absolutely essential that every doctor of medicine contribute his best efforts to what undoubtedly is the most important single public health problem which confronts our profession today.

Dr. Karl Bowman, who is professor of psychiatry at the University of California, in 1946, in his presidential address to the American Psychiatrists, quoted a few figures which I don't think will bore you, because I believe them to be very important not only to every doctor but to every American citizen. There are over 600,000 people in this country who suffer from severe mental disorders. They occupy more than half of all hospital beds in the United States. There are also at least 8,000,000 people who suffer from some sort of mental disease, and it is estimated that 10,000,000 of our population will, during part of their lives, need hospitalization for mental illness. The rejections due to psychiatric conditions in the last war by the selective service were over 5 per cent and I may say that in general I think our opinions were conservative rather than otherwise. We spent more than $250,000,000 a year on psychiatrists. Today the Veterans' Administration has hundreds of thousands of claims on its hands, of which three out of five are the result of psychiatric breakdowns in World War II. There are over 100,000 veterans who now apply for psychiatric care. Today the federal government is spending about twenty-five cents a year for psychiatric research for each case of mental disease, as against about a hundred dollars for each case of poliomyelitis, which is much less prevalent and no less disabling. Yet for every dollar the public agencies allow the psychiatrist for research, they spend one hundred dollars for mental hospital cases alone. They are perfectly willing to spend it in the hospital when the damage has been done, but this country yet has not been willing to spend it on prophylaxis.

I have tried to tell you, among other things, that psychiatry, in a sense, is not a specialty at all. At the very least, it seems to me the psychiatric point of view should be part and parcel, and a very integral part at that, of every doctor's awareness and knowledge, for without it, and particularly without an awareness of its ubiquitous significance, millions of sufferers will be half treated and therefore actually neglected.

It is inconceivable that anyone who has the audacity to discuss any phase of psychiatry dares omit mention of a man who has unquestionably been one of the world's greatest benefactors, namely, Dr. Sigmund Freud. Whether or not one is trained in the art of psychoanalysis or whether or not any individual psychiatrist is himself emotionally equipped or sympathetic with this school of thought, is irrelevant. I, myself, am not an analyst and in many ways I regret it, but I believe completely that there is no psychiatrist worthy of the name except him who takes into full evaluation the basic psychodynamics which are the essence of all psychoanalytical principles. It matters not how one's opinions differ in certain details, the fundamental principles upon which psychoanalysis rests must be used and applied by all of us who wish to gain true insight into the human mind. Freud's contributions are manifold and can not be discussed properly at this time, but the fact remains, if we leave out all else except his concept of the unconscious (and for our purposes at the moment, we can dismiss everything else, even infantile traumata) we have a contribution which is as important as any other scientific gift from which the world has ever benefited.

Another thing you must remember: the mere absence of clear-cut mental disease in people is not enough. We want the optimum of mental health for everyone. Not only has psychiatry permeated every other field of medicine, but it has entered upon the study of the foundations upon which man's behavior stands, recognizing that man is a cultural human being and therefore involved with the factors inherent in pathology, sociology, economics, law, and religion.

There is one very important point that I might bring to you and that is that functional disorders have to be treated on the emotional side early, because if they are not, the body learns habits of reaction which it finds difficult to unlearn; therefore, in a sense, there is such a thing as psychiatric first aid, and anyone who has had experience in psychiatry recognizes just as definitely a psychiatric emergency as a surgeon does a surgical emergency. It doesn't end in death, but it ends in the crippling of a human being.

We hear a great deal today about "security", and the need for security, which everyone of us feels and all of our patients feel. This concept of security is, in a sense, unrealistic, because there is no such thing as complete security. It doesn't exist in the world. However, the importance of the term is not to be tossed overboard too readily, because the need for relative security in the early years of life, while the patterns of human behavior and emotional behavior are fluid, is important. But the objective even then should be kept in mind. The child, as he grows up, must be taught how to adjust himself to a world which is basically insecure, but paradoxically perhaps, while he is doing it, he must be given security, with the awareness that this is a more or less synthetic atmosphere; then, very gradually, one must pull the props out from under him until he reaches a point where he is able to cope with reality, and the reality of an insecure world, not a secure world.

In conclusion, I would like to stress the fact that an attempt should be made to try, under every conceivable condition, to consider man as a whole and to understand and never to forget that any separation of mind and body is completely artificial. It is my firm belief that psychiatry has been oversold to the laity, but undersold to the medical profession. And, finally, it is well to keep in mind that the word "doctor" means not only a therapist, but also a "teacher." And to teach people to know something more of themselves is a great step toward relieving them of the many worries and miseries which attend human existence.

In closing, I should like to give you an example of what may happen in the life of someone who comes to a psychiatrist.

A woman who is a private patient of mine had a little girl four years old, who had been living in the same room with the patient and her husband, and the patient had a chance, which is rather unusual in New York today, to get a larger apartment. She asked me about it and I said, "By all means." I said, "Then the little girl can have a room to herself and can have her own furniture." She agreed that this was the thing to do. She was a very intelligent woman. Everything was fine. But on four or five occasions after that, my patient came in and said, "I can't live in that apartment. I simply can't live in it." Why? Well, it seems it was her mother's apartment, and her mother, who was a widow, had swapped with her and the patient got the larger apartment. I said, "What is the matter?" She said, "I am frightened to death." I said, "You have been in that apartment on and off for years." She said, "Yes, but I know why I feel that way. I don't need a psychiatrist to tell me that." She said, "My father died in that apartment a year and a half ago. I am not superstitious, but it brings back today all of my grief about his death, and I loved my father dearly." "Well," I said, "that's all right; I guess that is perfectly natural," and so we left it there, but nothing happened.

She was just as frightened of that apartment as she had been. And then we began talking a little more seriously than we had been doing, and getting down to brass tacks, attacking it from a different level. As in a great many other relationships between parents and children, this woman had loved her father, but as a younger woman, before she was married, she had some terrific run-ins with him. He had accused her of all sorts of things, had been very brutal to her, had usurped her salary when she was working. In other words, he had been a rather tyrannical, rabid human being, at which time she heartily hated him. But, of course, you can't hate your father. It isn't right; it is taboo. So she never admitted to herself that she hated him at all. She hated him so much she had said once she wished he were out of her way. "I wish he weren't here; he cramps my style. He just is not the kind of father I want." Actually, unconsciously, she wished his death. As a matter of fact, she almost told *me*. And I might say, I think that one of the most useful dicta in psychiatry is that you must never tell a patient anything about his unconscious ideas and feelings until he is almost ready to find that out for

himself. If you do, you will have a skeptic as a patient and you will be a failure as a psyciatrist. Anyway, she practically told me this, and when I asked, she admitted that it was her guilt about the repressed wishes for her father's death which made her unable to live in the apartment. As soon as she faced this fact, she no longer was afraid of that apartment, and has lived there in comfort for the past several months.

EMERGENCY ALLERGIC CONDITIONS

In his practice, a physician frequently encounters allergic patients so seriously ill that they may be termed medical emergencies.

These acute manifestations of allergy are seen in patients having bronchial asthma, urticaria or angioneurotic edema, allergic dermatoses, and reactions following hyposensitization or other form of therapy. Such a patient at times demonstrates a definite state of shock. It frequently happens that the physician sees the patient for the first time having acute allergic symptoms so severe that emergency management, or even hospitalization, is warranted.

Hay fever is rarely a medical emergency; however, exceptional instances do occur when a patient, extremely sensitive to pollen, obtains an overwhelming dose from actual contact with plants. The pollen, either contacted or inhaled, causes the patient to have severe hay fever complicated by asthma, urticaria, or other generalized reactions. This patient must be handled without delay to prevent actual shock.—David R. Thomas, Jr., M. D., and J. Warrick Thomas, M. D., in Southern Medical Journal.

DIABETES IN ADOLESCENTS

The prolonged life expectancy of diabetics due to the advent of insulin has given rise to many psychosomatic problems which were not apparent before. Now that diabetics have an increased life expectancy it is of great importance that they be properly educated in their mental approach. A fatalistic attitude that they cannot enjoy normal activities and a normal married life may lead them to non-cooperation, revolt and possibly psychic disturbances. Ideally, this educative process should start as soon as the diabetes is diagnosed. It is the physician's responsibility to encourage the development of a healthful mental attitude by informing the patient that practically the only restriction is dietary, and in cases in which it is necessary dietary supplemented by a regulated insulin regime. While diabetics who plan to have children should not marry other diabetics or mates with diabetic backgrounds, marriage to non-diabetics will lead to normal married lives and children.

It is important, where patients have been previously misinformed concerning their future outlook, that they be apprised of this misinformation for earliest correction. A diabetic who has been properly instructed and in whom a good psychologic balance has been established is more likely to be cooperative and amendable to control.—Samuel Benjamin, M. D., in Medical Annals of the District of Columbia.

ABDOMINAL PREGNANCY*

By LOUIS H. DOUGLASS, M. D., and
SCHUYLER G. KOHN, M. D.**
Baltimore, Maryland

Our study of abdominal pregnancy includes all of the cases of advanced extra-uterine pregnancy that could be found in Baltimore during the period from January 1, 1920 through December 31, 1944. Our criterion for an advanced extra-uterine pregnancy was that it be of at least thirty-eight weeks' gestation. All of the hospitals in the city and the chiefs of the various obstetrical services have been most cooperative, and we are deeply grateful to them for their assistance. The Baltimore City Health Department has furnished some of the statistical data.

Table 1.—Incidence

Color	Cases	Rate per 1000 Live Births
White	5	1:67534
Negro	21	1:4188
Total	26	1:16370

As shown in table 1, in the twenty-five year period covered, there occurred 26 cases of advanced extra-uterine pregnancy, all of which, from the information present, appeared to be secondary to a tubal pregnancy. During this same period there have been reported in Baltimore 425,620 live births, an incidence of one case of abdominal pregnancy in each 16,370 live births. Of more than passing interest is a comparison of the incidence in the white and Negro population. In the former, it is 1 in 67,534 live births, while in the latter, it is 1 in 4,188 live births. Thus, the condition is 16 times more frequent in the Negro than in the white race. This immense difference probably is due to the very high incidence of tubal pathology in the Negro rather than to any racial tendency or characteristic.

Table 2.—Maternal Mortality

First Period 1920-1932			Second Period 1933-1944		
Cases	Deaths	Rate	Cases	Deaths	Rate
12	5	41.7%	14	3	21.4%

Summary

White	0	0%
Negro	8	37%
Total	8	30.77%

There were 8 mothers who failed to survive, a mortality of 30.77 per cent. All of these were colored. The maternal mortality when the child was living at the time of operation was 60 per cent and when dead, 28.57 per cent. In an effort to determine if there has been any improvement in obstetric care, the entire period of twenty-five

*Presented before the 80th Annual Meeting of the West Virginia State Medical Association, at Charleston, May 14, 1947.

**From the Department of Obstetrics, University of Maryland School of Medicine, Baltimore, Maryland.

years was divided into two periods of thirteen and twelve years, respectively. In the first period, there were 12 cases and 5 deaths, a maternal mortality of 41.7 per cent, and in the second period there were 14 cases and 3 deaths, a maternal mortality rate of 21.4 per cent. This decrease probably has been due to several factors: (1) the much more liberal use of blood transfusions, (2) the earlier and more complete diagnosis, and (3) the better handling of the sac and placenta. Mason said in speaking of this condition: "Management of the placenta is the factor which usually determines the outcome of the case." We, too, believe that it certainly plays a large part.

Table 3.—Fetal Mortality

Stillborn	Neonatal Death	Total	Rate
20	2	22	77%

The fetal mortality was extremely high: only six children were born alive and two of these did not survive the neonatal period, so that this rate was 77 per cent.

Fig. 1.—This shows the fetal spine under the mother's diaphragm with the extremities dangling toward the pelvic inlet.

DIAGNOSIS

Although several new aids to diagnosis have been added recently, the task still is quite difficult in many cases, and not infrequently the diagnosis is "tentative" until operation. The classical symptom of pain on fetal movements was not outstanding in the majority of these cases. Frequently, it was so mild that it was dismissed with little or no attention. Since 18 of the 26 cases occurred in multigravidas, ease of palpation of fetal parts was of little help. As a rule, suspicion first was aroused by the fact that the patient went

Fig. 2.—1—The fetus is located entirely in the mother's left upper quadrant. 2—Hystero salpingography shows the uterus and a collection of radio opaque substance in the pelvis.

into mild labor at term with bloody "show", and after two or three days pains ceased and the fetus died. When this occurred, the attending physician usually asked for consultation and the task of diagnosis was somewhat simplified. A careful bimanual examination, under anesthesia if necessary, was found to be of considerable help. The cervix usually is displaced upward and to one side, and is long and firm. This condition was found in many of our cases. In 13 cases the uterus could be definitely palpated as a mass about the size of a grapefruit, attached to and continuous with the cervix and distinct from the mass containing the baby. This finding usually is sufficient to make the diagnosis. In recent years, we have resorted to the x-ray as an aid to diagnosis. A flat plate of the abdomen was, in some cases, quite suggestive in that the baby was found to be presenting in a most unusual manner. In one of the cases, there was a transverse lie, the back of the child being under the diaphragm and the four extremities "dangling" toward the pelvis,

as shown in figure 1. In another case, the baby was completely on the left side of the abdomen, with the opposite side clear (figure 2). The soft tissue technic was of major help in a few of the cases and was significant in others. Failure to see the outline of the uterus is at least significant, and if, in addition to this, the roentgenologist can demonstrate a small firm mass in or near the pelvis, the information is much more important. Hysterosalpingography was done in several of

Fig. 3.—Hystero salpingography has failed to demonstrate the uterus, but does show o collection of radio opaque material on the left side of the pelvis.

these cases (figure 3), but up to the present, for obvious reasons, has been restricted to those in which the diagnosis already was made with a fair degree of certainty, or in which the fetus was known to be dead. The results are very encouraging, but the method carries a definite risk when we are dealing with a normal living intra-uterine pregnancy. At this time, it is not recommended as a routine procedure.

The history of tubal rupture early in pregnancy with the usual symptoms of pain, shock, and vaginal bleeding was found in only 19 of these 26 cases. The severity varied from moderate discomfort requiring only a few minutes' rest, to an extent in one case which required hospitalization on three separate occasions, the diagnosis being threatened abortion.

The signs and symptoms of this condition should not be dismissed without reference to one aid in diagnosis not usually stressed, i. e., the presence or absence of Braxton-Hicks contractions. While their absence is only suggestive of extra-uterine pregnancy, their presence rules out this condition.

TREATMENT

The treatment in all but 2 of these cases was by laparotomy. In one case, the diagnosis was not made. The patient was given a medical induction and later an attempt was made to dilate the cervix manually. The patient went into shock and died undelivered. Necropsy revealed that the combined manipulations had caused the sac to rupture and that death resulted from a massive intra-abdominal hemorrhage. The other case was in a multigravida who entered one of the clinics in 1934, at the fifth month of pregnancy, with a history of having been treated at another hospital in 1931 for cirrhosis of the liver with ascites. Paracentesis had been performed several times

Fig. 4.—Missed abdominal pregnancy 15 years later.

with the withdrawal of large amounts of fluid, the abdomen rapidly becoming enlarged after each tap. She became dissatisfied with her treatment, signed a release and went home, finally making what appeared to be a complete recovery. Since she gave a history of chronic alcoholism, medical consultation was requested during the present pregnancy to determine the status of

her liver, but the consultant reported that the pregnancy was too large to permit of proper examination and requested that he be allowed to defer his opinion until after delivery. The pregnancy went to term and after a short, easy labor, the patient delivered a normal, healthy child. The puerperium was uncomplicated. She was seen several times by medical consultants and on the ninth postpartum day, a flat plate of the abdomen was requested to determine the size of the liver. She was discharged the following day and after she left the hospital the x-ray department reported their findings of an apparently normal liver and a heterogeneous mass of fetal bones in the pelvis (figure 4). Her "ascites" was evidently an abdominal pregnancy and the repeated paracenteses in reality was the repeated withdrawals of amniotic fluid. The patient has refused any further treatment and is still living and well. Figure 4 shows an x-ray examination made October 21, 1946.

After opening the abdomen the treatment varied somewhat, depending upon the findings and the year in which the operation was performed. In one patient, when the sac was opened for the removal of the child, there occurred severe hemorrhage which could not be controlled, and the patient died on the table. This occurred in spite of the fact that the baby had been dead for about two weeks before operation. In another and more fortunate case, the sac had ruptured some time prior to operation and the baby, which was living and well, lay free in the abdomen. The sac had retracted to the size of the placenta, there was no blood in the abdominal cavity, and all that was necessary was to remove the baby, tie the cord as close as possible to the placenta, and close the abdomen. Recovery was uneventful, and some three years later the mother had a normal pregnancy and labor.

In the earlier years covered by this report, we find several instances in which attempts were made to remove the placenta at the time of operation. In four instances it was necessary to remove the uterus also in order to accomplish this result. While the mortality accompanying this procedure was no greater than in cases in which it was not done (30 per cent in each), hemorrhage usually was pronounced, packing frequently was necessary, and convalescence was stormy and prolonged. As time went on, we found fewer and fewer instances of attempts to do more than open the sac, remove the child, sever and tie the cord as close to the placenta as was convenient, and close the sac and abdomen. Since 1933, this has been the routine procedure, the only exceptions being two instances in which massive hemorrhage was encountered which could be controlled only by hysterectomy. Both of these patients recovered. Manipulation of the sac has been responsible for profound shock and death in 2 cases. Therefore, we feel that manipulation and exploration must be kept at a minimum.

SUMMARY

Twenty-six cases of abdominal pregnancy have been reviewed. These comprise all of the advanced cases that could be found in Baltimore over a twenty-five year period. The instance was 16 times greater in the Negro than in the white population. The maternal mortality was 30.77 per cent, all of the deaths occurring in members of the Negro race. Fetal mortality was 77 per cent. The signs and symptoms in these 26 cases conformed closely to the standards and there was found little, if anything, to add to the usual methods of diagnosis.

Treatment changed somewhat as time passed, there being a decided trend to leave the sac and placenta in situ, and to use large and repeated blood transfusions and modern chemotherapy in the presence of infection. There has been a decided reduction in maternal mortality in the period covered by this report.

THE NEGLECTED PROSTATE GLAND

The prostate gland plays a very prominent part in the causation of the handicaps which men suffer in the later decades of life. Urologists estimate that 35 per cent of men over 50 years of age suffer from hypertrophy or, more specifically, hyperplasia of this organ. Of this number 10 per cent die of cancer. At present the prospect of a cure of this condition is most discouraging. An early radical removal is the only hope, hence the need of an early diagnosis.

Hyperplasia of this gland is not a disease per se. Due to its location an enlargement produces interference to the outflow of urine which, in turn, produces a chain of pathologic conditions that make old age a misery and frequently causes death unless relieved. Applications of the principles of preventive medicine can greatly ameliorate this situation. The medical profession should become prostate conscious as it has in focal infections, cancer, and tuberculosis.

Among the laity there seems to be abysmal ignorance as to the early signs and symptoms of urinary obstruction. Many seem to think it only the inevitable symptom of old age. The urologists estimate that 25 per cent of men suffering from this condition do not seek advice until complete obstruction develops.

If, in the treatment of every man patient over 45 years of age no matter what the complaint was, a brief urinary history were obtained and an examination of the prostate made, the patient could be alerted as to the danger signals and seek early treatment.—Frederick Coonley, M. D., in N. Y. St. J. of Med.

TUBERCULOSIS ABSTRACTS*

A PATHOLOGIST LOOKS AT TB

The autopsy records for the past ten years at Bellevue Hospital (New York City) reveal some important facts about the tuberculosis problem in this large metropolitan institution. Much of the information in these records is not found in death certificates and hence does not appear in vital statistics.

In the period from 1935 to 1945, 7,631 complete post-mortem examinations were done on individuals over 16 years of age, from all hospital services. One case out of every 10 examined revealed tuberculous cavitation. Tuberculosis as the cause of death in the whole group showed the highest rate between the ages of 16 and 40. However, two out of three of all the "spreaders" of tubercle bacilli were over 40 years of age, with many of them dying from causes other than tuberculosis. Most deaths from all causes in hospitals are in individuals over 40 years of age. In the epidemiology of tuberculosis the number of cases "spreading" the infection—not the mortality rate within a certain age group—is the important and too often overlooked fact in the attack upon the tubercle bacillus.

The records of the cases with tuberculosis cavity formation shows that 13 out of every 100 were not recognized clinically. Eight out of every 10 of the unrecognized cases were in individuals over 50 years of age.

The reasons for this situation may be many, but three are outstanding. First, a disease of more serious immediate concern was the reason why the individual became a hospital patient. Second, non-tuberculous lung diseases are more common in older persons which makes a correct diagnosis of tuberculosis more difficult. Third, the old dictum that serious tuberculosis is rarely acquired after 40 years of age has tended to dull medical thought about this disease in older persons unless there is a history of tuberculosis. A case with a cancer and a tuberculous cavity may die from the cancer but the spread of tubercle bacilli can be just as effective as if the whole process were tuberculous in nature. From these data, it is easy to see why the program to x-ray the chests of all hospital admissions and out-patients is of great importance.

The tuberculosis problem in a hospital may not truly reflect that of the community, for only those with serious illness will be represented. For the past two and one-half years an opportunity has been given to examine all cases of unexpected deaths, including deaths from accident, from suicide, from homicide and from obscure causes in Manhattan. The group is a representative cross-section, though small, of the inhabitants of New York City.

In this discussion, only the presence of tuberculous cavity will be considered, for this group represents the "spreaders" of the tubercle bacillus. In a group of 1,235 adults over 20 years of age, tuberculous cavity formation was observed in one of every 20 cases. No tuberculous cavity was found in 100 individuals under 20 years of age. One in every 16 white males, one in every 24 Negro males, one in every 30 Negro females and one in every 116 white females showed tuberculous cavity formation. In this group, open tuberculosis with cavity was present four times more often in the adult male than in the adult female. In males over 30, six out of every 116 white females showed tuberculosis cavity

From these few figures, an idea of the tuberculosis problem on this congested island is obtained. The individuals in the group examined represented many occupations—salesman, waiter, porter, housemaid, truck driver, bartender, elevator operator, auditor, clerk, gangster, etc. Supposedly they were well and at work yesterday—today they are found dead. Among them, it was unusual to unearth a known tuberculous case. The cause of death given by the Medical Examiner's Office reveals that in only one-fifth of these cavity cases is tuberculosis set down as the cause of death.

This shows how an erroneous idea may be obtained with regard to tuberculosis when data from death registration receive undue weight. This also shows that if x-ray surveys are to be effective, every adult, especially all males, in a community, should be included.

In the solution of the problem of tuberculosis the fullest cooperation of an enlightened public opinion is urgently needed. Any community with pride in the health of its citizens; with a compassion for those who, through no fault of their own, become ill; and with sure justice for those recalcitrants who knowingly endanger others can go far in the struggle against the tubercle bacillus. The crucial battle has barely begun. Let us see it through to success.—A Pathologist Looks at TB, Edgar M. Medlar, M. D., Bulletin of the National Tuberculosis Association, January, 1947.

SULFONAMIDES IN PEDIATRICS

The sulfonamide and antibiotics have so changed the treatment of many diseases that complications such as empyema, mastoiditis, osteomyelitis of the frontal bone, etc., are rare indeed. It has been said that patients coming to the hospital get sulfadiazine or penicillin or both as soon as they reach the front door. I think this is an exaggeration but it is a fact that they are given the drug much earlier than a few years ago.

There was a time when the bacteriology of the infection was found before specific therapy was started but it was found that time was lost, so now it seems best to take laboratory data and cultures as soon as the child is admitted and if the clinical diagnosis has been made and in cases where there seems to be an overwhelming infection, the treatment with sulfadiazine or penicillin or both is started even before a definite diagnosis is made. It is true that the infection may clear up without a definite diagnosis being made. This is not so good for the hospital record. However, in some cases it may have saved a life. In virus infection these drugs while they have no beneficial effect on the virus, combat complicating infections and in my opinion should not be excluded simply because of a low white count.—Edwin T. Wyman, M. D., in J. Maine Med. Assn.

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The President's Page

Efforts of the 80th Congress to enact health legislation have been characterized by confusion and stalling.

The first bill introduced was the Fulbright-Taft bill. This bill (S. 140) and a later bill sponsored by Senator Aiken (S. 712) would create a department of health, education and public welfare. The department would be headed by a secretary with cabinet status and would consist of three divisions, each supervised by an under secretary.

The division of health would take over all health activities of the federal government except those pertaining to the armed forces and the veterans administration. Senator Taft seems to have supported the Fullbright-Taft bill on the ground that some better legislation would not be possible. He later introduced the Taft-Smith-Ball-Donnell bill. This bill (S. 545) seeks not to disturb the present system of medical practice, but aims to bridge certain economic gaps in the system by providing general medical care for families and individuals with low incomes by federal grants to states having approved plans. The bill carries an appropriation of $200,000,000 for this purpose. A national health agency would be created which would coordinate all usual federal health activities in one agency.

The perennial Wagner-Murray-Dingell bill in its 1947 edition (S. 1320) is unchanged materially except for the bait of administration at state levels. All bills reached the hearing stage in committee; none were reported out.

Needless to say, the medical and allied professions are inalterably opposed to the Wagner-Murray-Dingell bill in any of its various editions. If many samples of public opinion mean anything at all, it would appear equally certain that the public also opposes the radical change in medical practice which the bill would bring about. The American Medical Association for years has consistently advocated the creation of a department of health with cabinet status. It would oppose, however, such a department which S. 140 and S. 712 would set up, in which health would be a secondary feature and very probably dominated by the social security group in Washington. While admittedly the Taft-Smith-Ball-Donnell bill (S. 545) proposes voluntary state medicine for the low income groups, it does offer to bridge a necessary economic gap, and the bill was supported by practically all groups concerned in the delivery of medical care. The bill was opposed on the grounds that it would be a "dole" and charity for a segment of the population. Senate Committee approval of S. 140 to incorporate the desirable features of S. 545 has met some opposition on the part of some medical groups on the grounds of the basic objections to both S. 140 and S. 712.

"Since the end of the war," according to the July 20, 1947, issue of The New York Times, "the United States has spent an estimated $20 billion in all forms for foreign assistance." There is much talk now about an additional expenditure of $5 billion a year to put the countries of western Europe back on their feet. The wisdom of all of this is not questioned. In the face of this colossal spending abroad, however, it does seem that there has been some dereliction somewhere along the line in that the Congress was unable to enact legislation which, among other things, would administer a proposed paltry appropriation of $200 million for grants to the states to provide medical care for a lot of people at home who are not able to pay the cost of care.

For a decade the medical profession and other groups which are concerned directly with the delivery of medical care have been able to exert an influence which has stalled the various efforts to thrust upon the American people an old world compulsory system of health insurance. This influence has been used entirely in a negative way. The time has now come when the same influence should be translated into a positive and constructive program which would seek to preserve medicine as an independent enterprise but at the same time correct certain economic ills of medical care. Senator Robert Taft, probably more than any other person in public life, seems to have the clearest grasp of the issue when he stated that "The bill (S. 545) we are proposing proceeds on the theory that the United States already has a comprehensive medical service, as good as any in the world, but that there are gaps in the service, particularly in reaching the lower income groups."

The whole issue will be revived in the 81st Congress and some health legislation is almost certain to be enacted. As long as independent medicine is assured, the medical profession should support wholeheartedly any safe legislation which provides good medical care for people who are not able to pay the cost of care.

W. H. St. Clair

President.

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REHABILITATION IN TUBERCULOSIS

The evolution of a program for tuberculosis control in the United States has been rather poorly balanced from the beginning. At first the emphasis was upon cure of the tuberculous patient, and for years most of the effort was expended upon treatment. Within the last decade, however, the emphasis has shifted to case finding, and we are just now beginning to realize the necessity for adequate rehabilitation to complete a properly well-rounded program for the ultimate eradication of the disease. Much of the credit for the development of proper case finding and for realization of the importance of rehabilitation is due Dr. Herman E. Hilleboe, Assistant Surgeon General, Chief, Tuberculosis Control Division, U. S. P. H. S., who has recently been named Health Commissioner of the State of New York. While in charge of the Federal tuberculosis control effort, Dr. Hilleboe's editorials on the various phases of tuberculosis in *Public Health Reports* have been outstanding from the viewpoint of the presentation of tuberculosis in all its phases and the development of a national control program, to say nothing of the fact that they have been models of scientific English. His latest, in the July 4 issue, emphasizing rehabilitation, is so much to the point that we quote it largely:

"Adequate rehabilitation services are essential to a complete realization of the control of tuberculosis. The purposes of case finding, medical care and isolation are defeated if tuberculous persons with arrested disease are returned to economic and social life without benefit of rehabilitation. Tuberculosis is a chronic disease. One of its chief characteristics is that it relapses. The person whose disease has been arrested can soon lose his new found health if he is required to return to unhealthy and intolerable work, which, perhaps, contributed to his original breakdown. It is not uncommon for the same person to return to the sanatorium three, four, and five times. Such experience is not only the cause of despair for the patient but the public health hazard and the economic cost are very great. Studies of these 'repeaters' reveal that in great numbers these people will return to work and ways of life inimical to the maintenance of health and the continuing arrestment of disease processes.

"The minimum essentials of a sound program of tuberculosis control are a nation-wide case-finding program of the entire adult population of the United States within a period of 5 years; medical care and isolation, which for effectiveness demands the construction of at least 50,000 beds for the tuberculous; rehabilitation and after-care of all persons who are found to be tuberculous, such work to begin at the moment of diagnosis and continuing often as long as 5 years after release from the sanatorium.

"Regrettably, sincere but overzealous persons often tend to concentrate their efforts on just one aspect of tuberculosis control. There is still no widespread acceptance of the philosophy of rehabilitation. Too often it is only an ancillary and relatively unimportant part in our assault on tuberculosis. So long as such an attitude persists we will fall short of our goal of eliminating tuberculosis from the population.

"Fortunately, there are a few organizations such as the National Tuberculosis Association, The Office of Vocational Rehabilitation, and the State and local rehabilitation departments, which are stimulating action in this essential work. As a consequence of the leadership of such groups, a national movement is in progress to make rehabilitation effective and uniform throughout the country. Before such a plan, however, can succeed, community leaders everywhere must accept and support the principles and practices of rehabilitation. It is the community that stands to gain the most in any such program. Effective rehabilitation reduces the length of time that the patient and his family are dependent upon the community. Rehabilitation realistically practiced can return useful citizens to the cities, towns, and farms of the nation.

"At the present time, there is urgent need to acquaint the medical profession, not excepting some sanatorium physicians, with the nature of the role they are to play in rehabilitating the tuberculous. These men and women are properly the leaders and coordinators of any effective program. The clinician has opportunities not available to anyone else for observing the physical, intellectual, and personality patterns of the patient. Assisted by medical social workers, institutional and public health nurses, occupational therapists, and librarians, the clinician is enabled to realize a total portrait of the drives and dreams of the men and women who submit themselves to his care.

"When the patient's disease process is arrested, the clinician's responsibility decreases. It is at this point that the responsibility of the vocational counselor and the medical social worker increases. These workers must then marshal all resources of the community to provide training, guidance, and placement in a job appropriate to the tuberculous person's intelligence, aptitude and physical capacity.

"It is probable that one of the reasons for the current disinclination to accept the responsibilities of rehabilitation is the want of emphasis placed upon such endeavor in medical schools. It would not be difficult to establish course units in the whole field of rehabilitation in every medical school throughout the country. Moreover, continuation study in graduate schools could easily include practical courses in rehabilitation under the auspices of such associations as the American Trudeau Society, The

American College of Chest Physicians, and State and local medical societies. Understanding breeds sympathy. The physician who knows what sound rehabilitation practice can mean to the patient will, with his new-found knowledge, enhance the quality of his care and increase the speed of progress of his patient toward health and happiness.

"The knowledge, understanding, and sympathy which the physician will realize, can at once be made more precise and encompassing if courses in rehabilitation are supplemented by (1) research in the psychology of the tuberculous; (2) study in the capacity of the tuberculous for types and quantity of work; and (3) analysis and evaluation of present knowledge of the psychic patterns of human beings in general. That such knowledge is faulty does not have to be emphasized. The psychiatrist can serve us well in this field, and eventually teach us much about nervous and mental patterns as they affect tuberculosis. * * *

"(Suitable) methods of rehabilitation must be instituted and carried on through the country. Further follow-up studies must be undertaken on the rates of relapse, survival rates, and employment and income records. With such an approach and with enriched information, rehabilitation will become an intrinsic function — a principal weapon — in our attack upon tuberculosis.

"Find the tuberculous; treat the tuberculous; rehabilitate the tuberculous: these compose the trinity of our approach. No one succeeds without the others. The three together mean unity and total attack."

S. O. S. PAYS DIVIDENDS

The S. O. S. for scientific papers that has been sounded repeatedly through the columns of the West Virginia Medical Journal is beginning to pay dividends. The Journal files at the offices of the West Virginia State Medical Association have in them at this time more approved material than than at any time during the past six years, and it has probably already been noticed by members that the scientific section of the Journal has been enlarged to keep pace with the extension of the medical news, organization, and advertising sections.

There are two reasons for the healthful condition of the scientific "morgue" at the present time. Considerably more speakers than usual presented prepared addresses at our annual meeting last May, and our own members have a little more time to devote to matters of this character than was the case during World War II.

There is a continuing need for interesting case reports, and it is hoped that our doctors will take sufficient time out to write up and submit such reports for consideration by the publication committee.

During the war, the scientific section was maintained almost upon a month-to-month basis. It is now a source of great pleasure to those responsible in any way for the publication of the Journal that the increase in scientific material submitted and approved is such that this section can be enlarged, and that more papers of general interest to our members can be published each month.

Doctors are urged again to submit papers for consideration by the publication committee. All manuscripts must be original and must be typewritten on one side of the sheet only, and must be double spaced. Manuscripts are accepted with the understanding that they are contributed exclusively for publication in the West Virginia Medical Journal.

Secretaries of component societies are requested to continue to make every effort to obtain for publication in the Journal worthwhile papers presented by speakers at their regular monthly meetings.

STILL BREATHING

Just in case it might seem to us that the W-M-D bill is dead, it is well to remember that, though quiet, it is still breathing; that the sponsors are still in training; and, that the little game of trying to cram this legislation down the throats of the American people will be resumed when Congress reconvenes.

Education is still the best preventive against this obnoxious bill—education of all the people to the need for the continuance of free enterprise. We know what is happening to medicine in England. Let's not permit it to happen here. But, it can happen here, and the only sure fire method of preventing it is to convince the people that the proposed new system is wrong, top to bottom, inside and out.

Doctors have a fertile field in which to work. It is in their offices, and in the homes of their patients. Arouse the people, and if there are any of our representatives in Congress still on the fence, that little thing called public opinion will compel them to take a definite stand.

Just one thing more: some of our representatives are out-spoken in their opposition to socialized medicine. Others have not publicly expressed themselves. West Virginia doctors, dentists, nurses. and laboratory technichians, all vitally affected by the provisions of the proposed bill, are interested in knowing where they stand. If a sufficient number of people who would like to see this bill buried for all time will contact our lawmakers during the Congressional recess, there will be no doubt where any West Virginia representative stands when Congress reconvenes in regular or special session.

General News

N. T. A. PRESIDENT TO ADDRESS STATE TB AND HEALTH ASSOCIATION

The annual meeting of the West Virginia Tuberculosis and Health Association will be held September 17-18, at the Daniel Boone Hotel in Charleston.

The meeting will open Thursday morning at 9:30 with conferences of full-time county secretaries. Dr. N. H. Dyer, state health commissioner, will preside at a demonstration workshop that afternoon. Mr. Robert Lightburn will discuss "Health Education Techniques", and the control staff of the bureau of tuberculosis of the state health department will have charge of a demonstration of a diagnostic clinic.

The annual dinner is scheduled for seven o'clock, with Dr. W. P. Bittinger, the president, presiding. The annual election of officers will be held during the evening.

Dr. James R. Reuling, president of the National Tuberculosis Association, will be the speaker at the banquet. Doctor Reuling has been a member of the N. T. A. board of directors since 1940. He is director of medicine of Flushing Hospital and Queens General Hospital, New York City, and is treasurer of the Medical Society of the State of New York.

The general program session will get under way September 18, at 9:30 A. M. with Mr. Charles Lively, executive secretary of the West Virginia State Medical Association, presiding. The following program will be presented at this session:

9:30-10:00 "Development of County Public Health Work"—Dr. Alexander Witcow, director of the bureau of county health work, state health department, Charleston.

10:00-10:30 "Rehabilitation Opportunities for County Tuberculosis Associations"—Mr. Holland Hudson, of the National Tuberculosis Association, New York City.

10:30-11:15 "Psychiatric Consideration in the Management and Treatment of the Tuberculous" —Dr. William B. Rossman, director of the bureau of mental hygiene, Charleston.

11:15-11:45 "Legislative Aspects, Considerations and Recommendations in Tuberculosis Control"—Hon. J. Hornor Davis, Charleston.

The annual meeting of the board of directors will be held on the morning of September 18, and the annual luncheon is scheduled for 12:30 P. M., with Dr. W. P. Bittinger, presiding. Mr. Edmund P. Wells, executive secretary of the Association, will submit his annual report at the luncheon.

MASS X-RAY STUDY FOR TB SCHEDULED FOR CLARKSBURG EARLY IN SEPTEMBER

The first mass x-ray study in West Virginia is scheduled for Clarksburg beginning September 8. The program is being launched by the state health department as part of the campaign against tuberculosis, and every effort will be made to x-ray all persons over school age in Clarksburg during the three weeks beginning on that date. The direct sponsors will be the Harrison County Tuberculosis and Health Association. Participating agencies, besides the state health department, will include the Harrison County Medical Society and Auxiliary, local city and county health departments, the school board, nurses' aids, and various service clubs and civic organizations.

According to Dr. N. H. Dyer, state health commissioner, Clarksburg has been selected for this demonstration because it has one of the oldest local tuberculosis associations in the state, and also has adequate facilities for diagnosis and follow-up. One of the seven permanent diagnostic clinics is located in that city. Other clinics have been established at Fairmont, Fayetteville, Logan, Morgantown, Moundsville, and Wheeling, and a new clinic will be opened at Weston September 1.

The bureau of tuberculosis control of the state health department will concentrate its three mobile x-ray units in Clarksburg during the survey and state health department and state tuberculosis association personnel will assist local officers and workers in planning and carrying out the study. Volunteer workers will make a house-to-house canvass to obtain signatures of persons desiring tests.

Besides offering free x-ray service to those desirous of having a check made for tuberculosis, tuberculin tests will be given to school children, and those showing a positive reaction will be x-rayed. The capacity of the units is approximately 2200 x-rays per day.

If the survey at Clarksburg is successful, the state health department plans to conduct similar studies in other West Virginia cities.

AMERICAN ROENTGEN RAY SOCIETY

The 48th annual meeting of the American Roentgen Ray Society will be held at the Hotel Haddon Hall, in Atlantic City, September 16-19. The Caldwell lecture will be delivered on Tuesday evening, September 16, by Dr. Merrill C. Sosman, of Boston, professor of radiology at Harvard Medical School. His subject will be, "Cushing's Disease—Pituitary Basophilism."

Interesting symposia have been arranged for the four-day meeting by Drs. Ralph S. Bromer, of Philadelphia, W. Walter Wasson, of Denver, and U. V. Portman, of Cleveland. Dr. B. R. Kirklan, of the Mayo Clinic, will be in charge of the instructional courses to be offered each afternoon during the meeting.

Dr. Raymond C. Beeler, of Indianapolis, is president of the society.

GOOD BREAKFAST WEEK

"Good Breakfast Week", sponsored by the West Virginia State Nutrition Committee, will be observed during the week beginning September 21. A "sneak preview" of the program that has been outlined for the observance was held in Charleston on August 26. Miss Agnes G. Reasor, Director of Home Economics, Cereal Institute, Chicago, was the principal speaker. Her subject was "This Business of Breakfast." The meeting, which was held at the Kanawha Hotel was attended by business and professional men and women interested in nutrition.

According to Miss M. Estelle Ingoldsby, president of the West Virginia State Nutrition Committee, a survey in West Virginia completed sometime ago showed that only one child in ten had an adequate or "good" daily breakfast.

The "good breakfast" program is nationwide in scope, and the campaign in West Virginia has the full cooperation of the state health department, the state department of education, the West Virginia State Medical Association, and the Agricultural Extension Service.

STANDARD ORANGE JUICE

The Council on Foods and Nutrition of the American Medical Association, in order to encourage the production of fruit juices containing high natural levels of vitamin C, has set up a standard for orange juice. In order to be acceptable, orange juice must contain 40 mg. of ascorbic acid per 100 cc. conserved in the juice as offered for sale.

S. M. A. SCHEDULES THREE-DAY MEETING

The annual meeting of the Southern Medical Association will attract many of our members, especially as the sessions will be held comparatively close home this year.

The meeting is scheduled for Baltimore, November 24-26. It was originally planned to have a one-half day meeting on Thanksgiving Day, November 27, but the executive committee has decided to have the meeting close the preceding day so that many of the members may be home for Thanksgiving.

The meeting will get under way at 9:30 A. M. on Monday morning, with registration starting at 8:30 o'clock. Monday will be observed as "Baltimore Day", and a general clinical session program will be presented by the local profession. The twenty-one sections will meet Tuesday and Wednesday.

W. VA. HEART ASSOCIATION TO MEET

The fall meeting of the West Virginia Heart Association will be held at the American Legion Home, in Parkersburg, October 2. There will be case presentations and round table discussions beginning at two o'clock, followed by a joint dinner meeting with the Parkersburg Academy of Medicine at 6:30 o'clock.

Dr. A. Carlton Ernstene, of Cleveland, will be the guest speaker at the dinner meeting. He will present a paper on "Curable Types of Heart Disease." Full information concerning the meeting may be obtained from Dr. Ray H. Wharton, secretary, 955 Market Street, Parkersburg.

ART EXHIBIT AT ATLANTIC CITY

A view of the American Physicians Art Exhibition at the American Medical Association Centennial meeting in Atlantic City, June 9-13, 1947. There were 1274 art pieces on display, all the work of medical men and women. The estimated attendance was 50,000, including physicians and their families and guests.

The special feature this year was a prize contest ($34,000 in bonds) sponsored by Mead Johnson & Co. on the subject of "Courage and Devotion Beyond the Call of Duty" on the part of physicians in war and in peace. Other prizes included cups, medals and certificates.

The American Physician Art Association is 10 years old and is growing rapidly. It numbers about 1,000 active physician-artists and approximately 4,000 other physicians who "belong" in order to encourage their colleagues.

INSTRUCTIONAL COURSE IN ALLERGY

The annual fall graduate instructional course in allergy of the American College of Allergists is scheduled for Cincinnati, November 3-8, under the auspices of the University of Cincinnati College of Medicine. There will be forty-six formal lectures, and a special allergy clinic of case presentations. An added feature will be three informal discussion groups led by members of the faculty.

The faculty is composed of more than forty outstanding physicians and scientists from prominent medical centers and colleges in the United States and Canada. The course presents a comprehensive study of the entire field of allergy covering the fundamentals, special allergies, specific diseases, and all modern methods of treatment. Symposiums on dermatologic and pediatric allergy are also included, as well as a survey of the laboratory approach to the subject, including preparation and standardization of extracts and skin testing.

Full information concerning the program may be obtained by addressing Dr. Fred W. Wittich, Secretary, 423 LaSalle Medical Building, Minneapolis 2, Minnesota.

PUBLIC HEALTH ASSOCIATION MEETINGS

The regular fall meetings of the West Virginia Public Health Association will be held in October. The northern district meeting is scheduled for Clarksburg, October 17, and the meeting in the southern district will be held at Beckley, October 20. As usual, general sessions will be held in the morning, and section meetings will be scheduled for the afternoon.

PUBLIC HEALTH NURSING CONSULTANT NAMED

Miss Ruth E. Bunker, R. N., former county health nurse for Fayette and Braxton counties, has been named by Dr. N. H. Dyer, state health commissioner, as public health nursing consultant. She will be attached to the bureau of tuberculosis control.

Miss Bunker served with the 198th army general hospital for over three years during World War II, with several months' service in the ETO. She held the rank of first lieutenant. She recently received her B. S. at Vanderbilt University.

OPENING OF THE GREENBRIER DELAYED

Postponement of the opening of the Greenbrier at White Sulphur Springs has delayed consideration by the scientific work committee of the program for the 81st annual meeting of the West Virginia State Medical Association. The program cannot be completed until it is known definitely what space will be available at this world famous resort. The opening is now scheduled for early spring in 1948.

The new manager, Edward T. Lawless, of Washington, D. C., assumed his duties late in July. He was appointed to succeed Clarence W. Dwinell, resigned. Mr. Lawless was general manager of the Palmer House in Chicago, from 1934 to 1942, when he was elected president of the hotel company, serving until 1946 when that hotel was sold to another hotel corporation.

DOCTORS LICENSED BY PHC

As the result of the examination held by the public health council at Charleston, June 30-July 1-2, thirty-four doctors were licensed to practice medicine in West Virginia, fifteen by direct examination, and ninteen by reciprocity with other states. This brings to seventy-eight the total number of doctors licensed to practice in this state since the first of January.

The following doctors were licensed by direct examination:

Harold David Almond, Rainelle; Howard Alexander Boyd, Institute; R. Moore Dodrill, Jr., Welch; Arthur Ray Fleming, Buckhannon; Robert Ellsworth Gibson, Charleston; Russell Lawrence Heinlein, Sistersville; James Bernard Leonard, Parkersburg; Donald Edward MacIntyre, Kimball.

James Glezen McCutcheon, Northfork; Mildred Rhudine Mitchell, Lakin; George Lyle Morris, Jr., Ameagle; Roy Thomas Rapp, Williamson; Jack Leahy Richardson, Williamson; Andrew Paul Sackett, Charleston; and Charles Frederick Wilson, Glenalum.

The following is a list of doctors licensed by reciprocity:

Charles Palmer Alexander, Bramwell; Philip Lesley Azar, New Martinsville; James Porter Baker, White Sulphur Springs; Henry Edstrom, Morgantown; George Francis Fordham, Montgomery; David Benoni Gray, Charleston; Harold Edward Harvey, Charleston; Charles Hall Hiles, Wheeling; Adolph Gottlieb Kammer, South Charleston; Kalman John Kroack, Elkins.

Leon Moses Kruger, Logan; Charles Bennett Mitchell, Valley Head; Willard Seward Newlin, Lorado; Sam Isamu Sato, Slab Fork; Gibson Carr Smith, Steubenville, Ohio; Horatio Adolph Spector, Ironton, Ohio; Jack Jay Stark, Belpre, Ohio; Vincent Raymond Tokar, Gary; and George Nolin Watson, Man.

NEW CATALOGUE OF FILMS

The Academy-International of Medicine, of Topeka, Kansas, has compiled a list of motion picture films now available, indexed by topics, with information concerning the source from which they may be borrowed for use at county society medical meetings or before doctor groups. A complimentary copy of the catalogue will be mailed to all interested persons. Requests should be addressed to Academy-International of Medicine, 214 West Sixth Street, Topeka, Kansas.

SILICOSIS MEDICAL BOARD APPOINTMENTS

Two Charleston physicians have been reappointed by E. B. Pennybacker, workmen's compensation commissioner, as members of the state silicosis medical board. Dr. Wm. C. Stewart was reappointed for the term expiring July 8, 1951, and Dr. George F. Grisinger for the term expiring July 8, 1949. Doctor Grisinger will serve as chairman of the board for the year ending July 8, 1948.

Dr. Paul W. Elkin, of Charleston, was appointed on July 8 as a member of the board to succeed Dr. S. G. Davidson, of Bluefield. His term expires in 1953.

RELOCATIONS

Dr. John Q. Godbey, of Sophia, has moved to Glen Daniels, where he will continue in industrial practice.

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Dr. W. P. Hamilton, formerly of Chapmanville, who moved to Greenwich, Ohio, early in the year, has relocated at Chapmanville, where he will engage in general practice.

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Dr. C. W. Shafer, who has been engaged in general practice at Spencer since his release from military service early in 1946, has moved to Baltimore, where he has accepted a two years' residency in anesthesiology at the University of Maryland Hospital.

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Dr. H. A. Spector, former intern at Charleston General Hospital, has located for the practice of medicine at 4106 McCorkle Avenue, in Charleston. At the completion of his internship in 1943, he was commissioned in the medical corps of the army and served until 1946. He was attached to the 25th Evacuation Hospital in the south pacific. Upon his release from military duty, he served a year's residency in internal medicine at Bethesda Hospital in Cincinnati, and was licensed to practice in this state in July, 1947, by reciprocity with Ohio.

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Dr. Robert G. Williamson, Jr., of Madison, has moved to Marmet, where he is occupying offices used by Dr. R. L. Calvert in that city. Doctor Calvert has gone to Chicago where he will take postgraduate work in pediatrics.

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Dr. J. W. Calvert, of Lamar, has moved to Lynwood, New York, where he will continue in general practice. He has offices at 99 Wilson Street in that city.

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Dr. George O. Nelson, plant physician for American Viscose Corporation at Nitro, will engage in part-time private practice at Nitro, effective September 1, with offices at No. 3 Twenty-third Street.

DR. BITTINGER ON N. T. A. BOARD

Dr. W. P. Bittinger, of Summerlee, president of the West Virginia Tuberculosis and Health Association, was elected a member of the board of directors of the National Tuberculosis Association at the annual meeting held recently in San Francisco. He will serve for two years. He succeeds Dr. Leo H. Mynes, of Charleston, as a member of the board.

STATE NURSES TO MEET IN HUNTINGTON

The annual meeting of the West Virginia State Nurses Association will be held at Huntington, October 30 - November 1. On October 29, a tuberculosis institute for nurses will be held in that city under the auspices of the West Virginia Tuberculosis and Health Association. Miss Esta McNett, chief nurse in the division of tuberculosis control of the Veterans Administration, Washington, will be in charge of the institute.

AMERICAN HOSPITAL ASSOCIATION TO MEET

The 49th annual meeting of the American Hospital Association will be held in St. Louis, September 22-25.

John H. Hayes, of New York City, who is the president, will preside at the opening session. He will address the delegates on the subject of "Major Factors Affecting the Hospital Economy." Other speakers that day will include R. O. D. Hopkins, executive director of the United Hospital Fund of New York; Alvin E. Dodd, president of the American Management Association, of New York City; and Leon H. Keyserling, of Washington, D. C. Mr. Keyserling is economic adviser to President Truman.

Regular sessions of the convention will be broken into sections on professional practice, administrative practice, hospital planning and plant operation, and special aspects of hospital administration. The four sections will convene simultaneously.

General topics slated for special consideration include the raising of standards of medical practice in hospitals, Blue Cross contract rates, the Hill-Burton Act, personnel management, psychiatric patients, children's hospitals and pediatric units, nursing and nursing education, and public relations and hospital costs. These topics will be assigned to outstanding hospital administrators and experts from related fields.

Mr. Graham L. Davis, of Battle Creek, Michigan, director of hospitals for the W. K. Kellogg Foundation, will be installed as president at the meeting on Wednesday night, September 24.

POLIO MEDICAL ADVISORY COMMITTEE NAMED

A West Virginia Medical Advisory Committee to the National Foundation for Infantile Paralysis has been appointed by Dr. Hart E. Van Riper, medical director of the foundation, according to Sterling Evans, state representative. The committee, which will meet at the call of the state representative, is composed of Drs. Frank J. Holroyd, Princeton; Cecil O. Post, Clarksburg; J. C. Pickett, Morgantown; L. Rush Lambert, Fairmont; Jack Basman and Howard A. Swart, Charleston; and Mr. Charles Lively, Charleston, executive secretary of the West Virginia State Medical Association, ex officio.

The committee has been appointed for the purpose of promoting a closer cooperation between the National Foundation and the medical profession in West Virginia, with the idea of providing the state representative competent medical advice in matters pertaining to poliomyelitis epidemic preparedness, and epidemic medical service and health education.

HEALTH OFFICERS APPOINTED

Dr. R. P. Fosnaugh, former resident at the Camden-Clark Memorial Hospital, in Parkersburg, has been appointed by Dr. N. H. Dyer, state health commissioner, as part-time health officer for Wood County. He succeeds Dr. C. E. Morehead, resigned.

Dr. A. G. Lanham, of Ronceverte, has been reappointed part-time health officer for that city, and Dr. Roscoe Stotts has been reappointed as part-time city health officer for Kenova.

PG COURSE IN DISEASES OF CHEST

The second annual postgraduate course in diseases of the chest, sponsored by the American College of Chest Physicians, will be held at the Chicago Municipal Tuberculosis Sanitarium, in Chicago, September 15-20. The meeting will feature all the aspects of diagnosis and treatment of diseases of the chest, especially the newer developments. The course is limited to thirty physicians, and the tuition is $50.00. Full information may be obtained from Mr. Murray Kornfeld, Executive Secretary, American College of Chest Physicians, 500 N. Dearborn Street, Chicago 10, Illinois.

A. M. A. SESSIONS FOR GENERAL PRACTITIONER

While the next annual meeting of the American Medical Association will not be held until June 1948, the forthcoming scientific sessions for the general practitioner, scheduled for Cleveland, January 7-8, 1948, should draw heavily from among West Virginia doctors. These sessions follow the mid-winter meeting of the A. M. A. House of Delegates in that city, January 5-6.

DOCTOR SAVES BOY FROM DROWNING

Bob Huston, a caddy at the Willow Wood Country Club, near Hinton, was rescued from drowning in the Greenbrier river August 14 by Dr. Buford W. McNeer, who was playing the course at the time.

Young Huston and Sunny Chattin, another caddy, were swimming in the river when Huston sank. Doctor McNeer dived into the water and brought the boy to the surface and then applied artificial respiration. The boy was quickly revived and resumed his work as a caddy later in the afternoon.

DR. ELMER HESS PTA BANQUET SPEAKER

Dr. Elmer Hess, of Erie, Pa., president elect of the Medical Society of the State of Pennsylvania, will be the guest speaker at the annual banquet of the West Virginia Congress of Parents and Teachers, at the McLure Hotel, in Wheeling, October 21. The general theme of the convention this year will be "Strengthening Our Community", and public health will be stressed throughout the program.

Mrs. Dale Thomas, of Charleston, is president of the state PTA, and will be in charge of the program.

FIFTY YEARS AGO

In the current issue of the Kentucky Medical Journal it is recalled that in 1897 the Kentucky School of Medicine graduated a class of eighty-one, with commencement exercises held in the Macauley Theater, in Louisville, and that the principal address was delivered by Governor George W. Atkinson, of West Virginia.

A salt substitute containing no sodium, for use by patients on a salt-free diet, is now available under the name Neocurtasal.—General Practice.

Obituaries

JOSEPH HALLOCK MOORE, M. D.

Dr. Joseph Hallock Moore, 45, of Huntington, died of coronary occlusion at his home in that city August 3. Doctor Moore was born in Huntington, July 7, 1902, and received his early education in local schools and at Sewanee Military Academy. He received his B. S. at Lafayette College, and his M. D. degree from the Medical College of the University of Iowa. After his graduation from medical school, he served a four-year residency in otolaryngology at Bellevue Hospital, in New York City. Immediately thereafter, he located in Huntington for the practice of his specialty.

He was associated in practice with Dr. A. C. Esposito, and his father, Dr. Thomas W. Moore. He was chairman of the department of otolaryngology and ophthalmology at St. Mary's Hospital, and was the author of several papers on Meinere's Disease. He was a diplomate of the American Board of Otolaryngology, a member of the American Laryngological, Rhinological and Otological Society, and was serving as president of the newly organized West Virginia Academy of Ophthalmology. He was a member of the Cabell County Medical Society, the West Virginia State Medical Association, and the American Medical Association.

Besides his father and mother, Doctor Moore is survived by two daughters, Priscilla Alden and Harriet Hallock Moore, and a brother, Thomas W. Moore, Jr., of Hagerstown, Maryland.

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WYNDHAM B. ROBERTSON, M. D.

Dr. Wyndham Bolling Robertson, 72, of Kearneysville, died of heart disease August 9, 1947, in a hospital at Martinsburg.

Doctor Robertson was born in 1874 at Abingdon, Virginia. He received his academic training at Abingdon Academy and at William and Mary College. He was graduated from the University College of Medicine at Richmond in 1898 and was licensed to practice in West Virginia in 1901.

In 1906, Doctor Robertson located in Kanawha County, where he practiced continuously for 33 years. Suffering a heart attack in 1939, he retired from practice at Belle and moved to his farm near Kearneysville.

During World War I, he served in the Army Medical Corps and went overseas with the 79th division. He was an honorary member of the Kanawha Medical Society, the West Virginia State Medical Association, and the American Medical Association.

He is survived by two sons, William Bolling Robertson, of Washington, and Archibald Robertson, of Jefferson County, and one brother, Judge Walter H. Robertson, of Abingdon, Virginia.

JEFFERSON B. SIMONS, M. D.

Dr. Jefferson B. Simons, 73, of Buckhannon, died at his home in that city July 25, 1947, following a heart attack. He had been in ill health for several months.

Doctor Simons was born in Upshur county February 17, 1874, son of the late George W. and Harriet (Lemons) Simons. He was graduated from the Eclectic Medical College of Cincinnati in 1899, and located at Alton, in Upshur county. He moved to Buckhannon in 1907, where he continued in active practice until his death. Besides his widow, Mrs. Pearl (Thomas) Simons, he is survived by two sisters, Mrs. Olive Phillips, of French Creek, and Mrs. Lona Van Devender, of Volga.

MEDICAL PUBLICATIONS NEEDED OVERSEAS

As a result of war and persecution, doctors, dentists and technicians in allied fields throughout Europe have been deprived for more than ten years of news of the latest developments in their professions—the kind of news and analysis contained in this journal.

If you do not wish to keep this issue permanently, it is suggested that you send it to the SOS (Supplies for Overseas Survivors) Collection of the Joint Distribution Committee, 1539 Troy Avenue, Vanderveer Park, Brooklyn, N. Y. It will be placed in a library in a D. P. camp, child care center, hospital or school, for use by professionals desperately anxious to bring themselves up-to-date on the knowledge forcibly kept from them by the Nazis.

SOLVING RURAL HEALTH PROBLEMS

There are only two groups of people who are vitally and sincerely interested in finding a solution to the rural health program, namely, the inhabitants of such rural areas themselves, and the medical profession. If this problem is to be solved, it must be done through the close cooperation of these two groups working out a program of procedure to relieve the present undesirable conditions.

No rules of procedure can be made which will not have to be revised to fit some unusual condition since there are so many diverse types of rural areas in the United States. A specific program drawn to the measurement of conditions found in the corn belt of the middle west would of necessity need some revision to meet the entirely different type of person and occupation present in the cotton belt of the south, or the mining areas of either the Eastern or the Rocky Mountain states. However, a start must be made and a general plan outlined which is flexible enough to allow the changes needed to meet the different conditions found in the various sections of the United States. —F. A. Humphrey, M. D., in Arizona Medicine.

DOCTOR HOBBS NAMED PATHOLOGIST

Dr. Melford L. Hobbs, pathologist at the Fairmont General Hospital, has been appointed by Irvin Stewart, president of West Virginia University as head pathologist and clinical pathologist at the University's School of Medicine. He succeeds the late Dr. C. C. Fenton.

Doctor Hobbs, who will assume his new duties September 1, was assistant professor of pathology at the University of Vermont College of Medicine, at Burlington, before locating at Fairmont in 1946.

Diabetes Abstracts

TREATMENT OF DIABETES IN CERTAIN ACUTE COMPLICATIONS—G. G. Duncn, M. D., and W. S. M. Ling, M. D. Med. Clinics of N. A., March, 1947.

It is not enough to be familiar with the treatment of uncomplicated diabetes, because it is a rare diabetic who does not develop at some time an acute complication. The authors limit their paper to discussion of treatment in acute infections and surgical complications, both of which increase the need for insulin. It is not possible to predict how much insulin any diabetic will need in an acute complication. The amount of insulin must be steadily increased while glycosuria and hyperglycemia persist. Great fluctuation in blood sugar levels is certain unless special consideration is given to the distribution of insulin and nourishment.

The authors for 14 years have, in the treatment of acute complications, used a plan of dividing diet and insulin into 4 or 6 equal parts, and spacing them equidistant in the 24 hours, using only crystalline insulin. They find that this simplifies the treatment and greatly reduces mortality. They further recommend the use of liberal protein, 100 grams per day or more in any adult, and they also think that undernutrition is a serious matter at any time, and especially in acute infections. Crystalline insulin is started in total 24-hour dosage equivalent to, or less than the previous total insulin requirement. Since the divided dosage of insulin every 4 to 6 hours is used, it is easily possible by frequent urinary sugar tests, to decide upon increases or decreases in insulin. Rapid increases of 4 to 12 units per dose may safely be made until control is achieved. When glycosuria is finally controlled it is necessary to make modest reduction of insulin in anticipation of (a) the control of the diabetes, and (b) the correction of the acute complication. In more severe cases the 4 hour schedule is followed, the 6 hour in less severe.

When operation is to be done the patient is given one fourth of his diet in liquid form, and one fourth of his total insulin, 6 hours prior to operation. Postoperatively parenteral feeding with frequent giving of crystalline insulin is indicated. Nine grams of salt is the minimum daily requirement, with 200 to 300 grams of glucose, and protein to an equivalent of 100 grams, in the form of whole blood, plasma, or protein derivatives. The 4 or 6 hour insulin requirement can best be determined by frequent analysis of the urine for sugar and acetone.

With recovery from the acute illness or operation the former diet and insulin dose are resumed.—F. R. W.

*The materiol in this column is supplied by members of the Committee for the Study of Diobetes The conclusions of the outhors ore not necessorily endorsed by the committee but are presented to ocquoint the profession with the current literature in this field.

County Society News

CENTRAL WEST VIRGINIA

The summer quarterly meeting of the Central West Virginia Medical Society was held at Camp Caesar, in Webster County, Thursday, June 19, with Mr. Charles Lively, executive secretary of the West Virginia State Medical Association, as the guest speaker. His subject was "One Hundred Years of Organized Medicine." The speaker discussed the growth of the American Medical Association and the West Virginia State Medical Association and compared conditions met by the practitioner of the so-called "horse and buggy days" with conditions as they exist today.

An interesting movie in technicolor was presented by Pardee-Curtin Lumber Company, showing coal mining operations in Webster county.

At a short business session preceding the scientific program, Dr. Leonard N. Strickland, of Summersville, was elected to membership in the Society by transfer from Kanawha Medical Society.

A delicious chicken dinner was served by the Four-H staff at Camp Caesar. Dr. John E. Echols, of Richwood, presided at the meeting, which was attended by doctors and their wives from every county embraced within the society. The fall meeting will be held at Buckhannon in September.

J. M. COFER, M. D.,
Secretary.

* * * *

FAYETTE

Dr. Kinloch Nelson, of the Medical College of Virginia, Richmond, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held August 5, at the Hotel Hill, in Oak Hill. His subject was, "The Present Day Treatment of Graves' Disease." The paper was illustrated by lantern slides.

At a short business session held following the scientific program, Dr. C. B. Hughes, Jr., of Montgomery, and Dr. Henry A. Wiseman, III, of Glen Ferris, were elected to membership. Dr. W. L. Claiborne, of Montgomery, was elected a member by transfer from the Cabell County Society.

Dr. Harvey Haag, who was recently appointed dean of the Medical College of Virginia, will be the guest speaker at a meeting which will be held at the Edgewater Steak House, near Gauley Bridge, September 2. He will speak on the subject of "The Newer Pharmaceuticals in General Practice." Members of the West Virginia State Medical Association from adjoining and adjacent counties are invited to attend the meeting. Dinner arrangements may be made with the secretary.

J. N. JARRETT, M. D.,
Secretary.

BIRTHS AND DEATHS IN 1945

The extraordinary wartime birth record of the United States continued into 1945. Births for the year are estimated at 2,900,000. Although the number of births continued to fall for the second successive year, the recession was quite moderate—3 percent as compared with 1944 and 8 percent from the banner year 1943. The number of births in 1945 still far exceeds the annual average in the prewar decade. In fact, it is greater than in any year prior to the war, with the exception, probably, of 1921.

The estimate of births for 1945 is based upon a special inquiry by the Statistical Bureau of the Metropolitan Life Insurance Company and upon the country-wide records of the Census Bureau for the first 10 months of the year, supplemented by data for areas for which later information is available from local sources. It includes an allowance for underregistration.

The estimated number of births corresponds to a rate of 20.8 per 1,000 population, including overseas military personnel and civilians. The year 1945 thus marks the fifth in succession in which the country's birth rate has exceeded 20 per 1,000.

Fortunately, the continued high level of the birth rate has been accompanied by a low infant mortality. Despite war conditions, the death rate among infants showed further improvement in 1945, and reached a new all-time low. The rate for the year is estimated at a little more than 38 per 1,000 live births, as compared with nearly 40 the previous minimum, in 1944, and with slightly more than 40 in 1942 and 1943. The infant mortality rate for 1945 is 16 percent below that of the last prewar year, 1941. In the last decade the infant mortality rate has been cut more than 30 percent.

MEDICAL RECORD V. GOOD MEDICAL RECORD

The necessity for medical records needs no justification. Good medical records, however, is a goal sought after not only by doctors, but by hospitals, nurses, jurists, and not least by patients. The distinction between a medical record and a good medical record is one that has slowly but progressively made itself felt. The personal professional experience of every doctor bears ample testimony of this. To the bedside notes of Hippocrates is given the honor of the first written medical record. So it has no claim to novelty. Only within the past quarter of a century has any organized effort by American Medicine been made to bring the medical record up to a level comparable with advances made in other branches of the art.

No more commendable objective could be cited. The responsibility on the part of the individual physician to fulfill this duty is pretty generally recognized. While perfection has by no means been attained, there exists an ever present and ever growing consciousness of the value of a good medical record to the doctor, to the patient, to medicine and its allied sciences and to society as a whole. In general it can be said that the status of the medical record is good and the impetus to achieve further improvement worthy of our never relenting support.—Rhode Island Medical Journal.

Book Reviews

DISEASES OF THE CHEST, WITH EMPHASIS ON X-RAY DIAGNOSIS—By Eli H. Rubin, M. D., F.A.C.P., F.C.C.P., Attending Physician, Division of Pulmonary Diseases, Montefiore Hospital and Country Sanatorium, New York. Pp. 685, with 355 illustrations (24 plates in color). 1947. The W. B. Saunders Co., Philadelphia. Price $12.00.

This review of diseases of the chest is divided into six sections, each of which is treated as a separate entity. Section one deals with applied anatomy, roentgenology, and applied physiology so essential for the proper interpretation of symptoms and signs. Section two deals with acute and chronic pneumonias and gives valuable details of current therapeutic practices. Section three covers the major aspects of pulmonary tuberculosis and its complications. Section four deals with diseases of the bronchi and includes chapters on bronchogenic neoplasms, bronchiectasis, emphysema, pulmonary cysts, bronchial asthma, and two chapters on the important clinical syndrome of bronchial obstruction. Section five deals with disorders of the mediastinum, pleura, and diaphragm. Section six outlines the principles of surgical treatment of diseases of the chest in such a manner as to acquaint the reader with the various surgical modalities currently available.

Throughout the entire work, there is a great emphasis on roentgenology, and the case presentation method is used extensively, with frequent reference to the abundant illustrations and plates.

Radiologists should find this work of value, because it presents material allowing more insight into the altered anatomy and physiology in various diseases than do most works devoted primarily to roentgenology. Other physicians and surgeons encountering diseases of the chest should also find this a valuable reference work, for although there is not an exhaustive exposition of any subject, yet the entire field is dealt with concisely and adequately.—C. K. Sleeth, M. D.

A TEXTBOOK OF MEDICINE—Edited by Russell L. Cecil, A. B., M. D., Sc. D., Professor of Clinical Medicine, Cornell University Medical College, with assistance of Walsh McDermott, M. D., Associate Professor of Medicine. Associate editor for Diseases of the Nervous System, Harold G. Wolff, M. D., Associate Professor of Neurology at Cornell. Seventh Edition. Pp. 1730, with 244 illustrations. The W. B. Saunders Co., Philadelphia. 1947. Price $10.00.

The Seventh Edition of Cecil's Textbook of Medicine is more than a revision; it is practically rewritten and is brought down to date in the light of the medical developments of World War II. Sixteen entirely new articles on subjects not covered in the preceding edition are included, among them Blackwater Fever, Drug Allergy, Acrodynia, Hypervitaminosis, Porphyria, Diphtheritic Polyneuritis, Headache, Hemifacial Spasm and Narcolepsy.

Entirely new treatises on subjects previously treated number fifty-four. Among these are: Herpes Zoster, Psittacosis, Lymphocytic Choriomeningitis, Epidemic Pleurodymia, Streptococcal Infections, Diphtheria, Syphilis, Rat Bite Fever, Alcoholism, Diabetes Mellitus, Diseases of the Liver, Bronchiectasis, Myasthenia Gravis, Subarachnoid Hemorrhage, The Psychoneuroses, Affections of the Blood Vessels of the Brain, Causalgia, and Progressive Facial Hemiatrophy.

Several transpositions of material have been made in this edition. Haverhill Fever is now listed with Sodoku as synonymous with Rat Bite Fever. Rheumatic Fever is classified as a streptococcal infection instead of being listed among Diseases of Doubtful or Unknown Origin. Syphilitic Aortitis and Aneurysm, formerly classified under Diseases of the Arteries, have been transferred to Infectious Diseases and discussed under Syphilis. Likewise Syphilis of the Central Nervous System is classified as an infection and discussed under Syphilis.

Outstanding men of medicine, in each instance, present the individual treatises. Exceptionally good articles are: The Introduction to the Virus Diseases, Rheumatic Fever, Typhoid Fever, Hypervitaminosis, and Miscellaneous Pathological Conditions of the Heart. The discussion of Subarachnoid Hemorrhage is an especially attractive presentation although we cannot agree entirely with the treatment as outlined.

The double-column paging used in the preceding edition is retained. The entire format is attractive, but the binding does not appear quite as stable as that of the Sixth Edition.

Everything considered, this edition brings Internal Medicine up to today.

* * * *

THE VANISHING NURSE

Twenty-two thousand nurses who responded to a nation-wide survey threw some light on the mystery of the vanishing nurse. The study, made by the Bureau of Labor Statistics in cooperation with the National Nursing Council and the Women's Bureau of the U. S. Department of Labor, showed that the majority of nurses who leave the profession do so for reasons of matrimony. Of the number of nurses who have maintained their registration, only one in ten is employed, or seeking employment, outside of nursing.

Nurses generally are satisfied with their work, but certain problems concerning nursing practices and economic insecurity are creating definite dissatisfaction in many quarters. Lack of provision for retirement and security against unemployment, inadequate rates of pay, and insufficient opportunities for promotion and pay increases are leading reasons for nurses' malcontent.

In a representative month of 1946, the average nurse worked 190 hours and received $170 to $175 if she lived outside the hospital. The average was $40 for a 44-hour week. Staff nurses, who provided their own living quarters, earned $172 a month plus one meal a day. Only one in five staff nurses lived at the hospital. She received an average of $160 for the month. On the other hand, industrial nurses, who provided their own living quarters, averaged $196 a month.

The Pacific Coast leads the nation with the highest monthly pay and somewhat shorter hours, whereas the New England States reported the lowest monthly earnings.—R. N.

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1. D'Antoni, J. S.: Amebiasis, Recent Concepts of Its Prevalence, Symptomatology, Diagnosis and Treatment, Internat. Clinics 1:100 (March) 1942.

2. Manson-Bahr, P.: Some Tropical Diseases in General Practice, Glasgow, M. J. 27:123 (May) 1946.

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LIFE FOR THE LONG LIVED

"After reading many books on old age, I find Cicero the most irritating," complains Dr. R. Allen Bennett in a lively, scholarly treatise written from the vantage-point of the eighth decade of life. He objects specifically to the insincerity and lack of humour manifest throughout the De Senectute—"this tiresome work."

According to Cicero, Cato gave four reasons for a miserable old age: having nothing to do; enfeeblement of body; deprivation of pleasure; and the approach of death. Yet actually, of these four reasons, only the last is an inevitable result of life, whether long or short.

It is now well established that old people like to be occupied, that many of their ills yield to treatment, that they take pleasure in simple things, and that so long as they get these things and can live under conditions of reasonable comfort they pay no more attention to the thought of death than the rest of us.—The Lancet.

STREPTOMYCIN IN TUBERCULOSIS

Streptomycin appears to be highly effective in the treatment of tuberculosis sinuses of the skin. Although it is recommended that tuberculosis pneumonia should be treated with streptomycin, it is not recommended for all types of pulmonary tuberculosis. Streptomycin is not indicated for chronic fibroid or fibrocaseous pulmonary tuberculosis, for acute destructive and apparently terminal types, or for early cases with a favourable prognosis; but encouraging results have been reported in the treatment of recent but extensive and progressing lesions.

It is stressed that tuberculosis with a favourable prognosis should not be treated with streptomycin until more is known about toxicity and the appearance of drug-resistant strains; the latter seems to be one of the greatest drawbacks to streptomycin therapy.—British Medical Journal.

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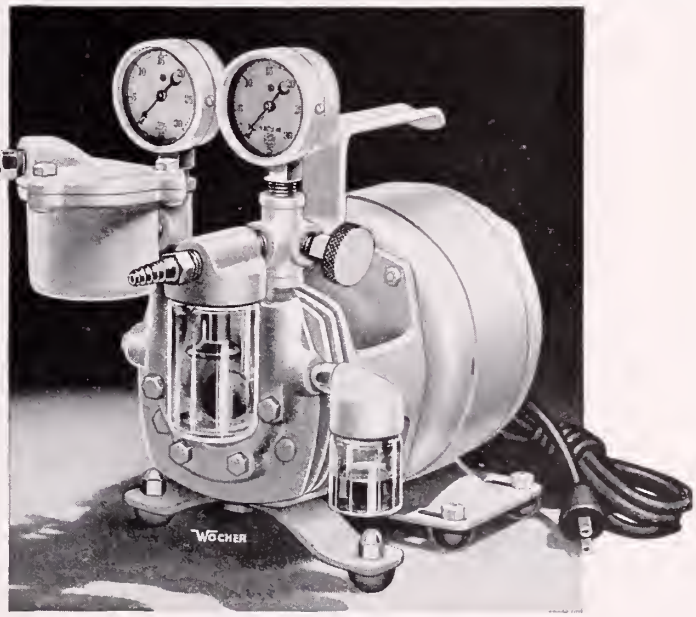

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VIRTUE OF LINIMENTS

Most people have confidence in liniments. There is something mysterious about them. Heaven help the pharmacist whose refills do not measure up to the patient's memory of the color, consistency and smell by which he identifies its conformity to the first dispensation that did so much good.

A liniment is a pharmacopeial preparation, consisting of a medicament in oil, alcohol or water applied by friction to the skin. If the volatile ingredients lack that pristine splendor that characterized the contents of the original container, confidence is lost forthwith, and this usually through absence of olfactory appeal held to be synonymous with unadulterated potency and therapeutic value. The physician who prescribes an odorless rubefaceant may be scientifically right but he could well afford to enhance the value of the preparation by resorting to the art of psychological appeal.

We submit that ammonia, camphor, turpentine or wintergreen applied locally may have some beneficial effects. We agree that in cases where time and *vis medicatrix naturae* are the only requirements both patient and friends are happier if they are given "something to do." We still believe, however, that the chief virtue of liniment is the accompanying massage that would not be carried out if the application were colorless, odorless mineral oil. Faith and hope would not abide in the patient even though the prescription were purest charity.—A. E. H. in The Journal-Lancet.

Correspondence

Charleston, W. Va.,
August 8th, 1947.

Mr. Charles Lively,
Atlas Building,
Charleston 1, W. Va.

Dear Charlie:

In accordance with our telephone conversation, I am writing you concerning the increase in rates for malpractice coverage in West Virginia which will be charged by the Aetna Casualty and Surety Company, effective October 1st, 1947. I quote from their bulletin to us as follows:

"Our experience on Physicians Professional Liability Insurance has been unfavorable over a period of many years. We considered establishing a rate increase about five years ago but decided to postpone such action in hopes that there would be an improvement in the experience. Unfortunately, there has been no improvement in the claim frequency and severity and, therefore, we are compelled to establish a slight rate increase.

"Over the past fifteen year period, we have paid out $1.02 for every $1.00 in premium collected.

"The revised rate will be $28.00 for $10/30,000 limits compared to the present rate of $25.00. Increased limits of liability will carry a proportionate rate increase.

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(Signed) R. P. DeVan, Jr.

RPD:mc

JAMES E. FISHER, M. D.
New Cumberland, West Virginia
August 11, 1947

The Editor,
W. Va. Medical Journal,
Charleston, W. Va.
Dear Sir:

I don't believe you have a department of the Journal open to suggestions and ideas about medical practice, medical economics, policy, etc.; but you should have.

I have a "beef" which I would like to air thru your columns. Namely I would like to see this law abolished, that medical bills for state compensation cases have to be submitted within ninety (90) days or they will not be paid. What is fair about that? How many medical bills do we doctors collect within 90 days? The State Compensation Fund has several million dollars on deposit in West Virginia banks on good authority, and I think it is a dishonest policy which has been adopted, refusing to pay bills which are not submitted within 90 days of cessation of treatment, especially so, since in many instances the employing companies are slow in sending Forms C. D. 12 and C. D. 7 to the doctors involved. I say if a doctor treats a compensation case he is entitled to be paid by the state compensation commissioner REGARDLESS OF WHEN he submits his bill, and I would like to see our proper committee of the State Medical Association have this abuse abolished.

Personally I have been CHEATED AND DEFRAUDED of several hundred dollars since I got out of the Navy by this asinine law, which the doctors of West Virginia are soft enough to submit to. Our Hancock County Medical Society tried to rectify this

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abuse, but without success. The West Virginia Medical Association CAN abolish it if they are so minded!

Yours truly,
(Signed) James E. Fisher, M. D.

PINKERTON'S NATIONAL DETECTIVE AGENCY, INC.

417 South Hill Street, Los Angeles 13

August 14, 1947

Mr. Charles Lively, Secretary,
W. Virginia State Medical Association,
Box 1031,
Charleston 24, West Virginia.

Dear Sir:

Our Agency has been engaged to conduct a search for David Van Petten, age 17, who has also used the name David Abel. Height, 5′ 8″; weight, 125; brown hair, hazel eyes; even white teeth; complexion blemished. Talks in a low voice and may possibly have slight limp in right foot due to recent fall from horse. May be suffering from amnesia as result of accident.

While attending school David was afflicted with an extremely bad and unsightly case of adolescent pimples and possibly an acne condition which had considerable effect on his general attitude and we feel that this condition had some bearing on his leaving school, it having later been reported that he suffered considerable chiding at the hands of other students on account of this condition.

It is very possible that David will from time to time consult a doctor relative to treatment for this condition, it being one of the things foremost in his mind.

On April 11, 1947, David left the New Mexico Military Institute, Roswell, New Mexico, where he was attending as a student. The last record of his whereabouts was in El Paso, Texas, on April 25, 1947. He has Social Security card No. 450-44-9744, issued in the name of David Abel.

Mrs. F. N. Van Petten, this boy's mother, who is a widow, is very much upset and ill as a result of her son's disappearance, and it is our earnest desire to locate this boy as soon as possible.

Should anyone be in possession of any information concerning the present or recent whereabouts of this boy, please notify the nearest Agency office at our expense.

Very truly yours,
PINKERTON'S NATIONAL
DETECTIVE AGENCY, INC.
(Signed) B. P. Bradford,
Superintendent.

"Seeing eye" canes using the principle of radar have been invented by the Army Signal Corps.—R. N.

Be not sick too late, nor well too soon.—Benjamin Franklin.

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ENDEMIC TYPHUS FEVER: CLINICAL STUDY OF TWENTY-FOUR CASES: REVIEW OF LITERATURE*

By JOHN CHESNUT, M. D.**
Mountain Grove, Virginia

INTRODUCTION

This clinical study deals with endemic typhus fever (murine typhus) in the city of Nashville. It includes twenty-four cases admitted to the charity service for the six month period from July 1, 1944 to December 31, 1944. Six cases which are considered representative of the group are presented in the form of case reports. These patients were residents of the city of Nashville at the time of their infection and hospitalization. Many of the patients either lived or worked in sections of the city known to be centers of foci for endemic typhus.

The word typhus is derived from the Greek word "typhos" which means stupor. It was used originally to mean fog, smoke or haze. The term typhus was used by Hippocrates to describe the condition of hebetude. The term typhus apparently was applied to this disease entity in 1760 by Sayvage.[1]

HISTORICAL

Allusion to typhus in Biblical writings under the caption of pestilence is noted frequently.[2] It may be one of the oldest recorded diseases. Cases reported by Hippocrates strongly suggest the diagnosis.[2] Typhus may have existed in the western hemisphere even before the time of Columbus and may have been the cause of the destruction of the Toltec city of King Topilzin (1116 B. C.).[3] Hirsch describes a disease incidence which occurred in 1083 at a monastery in Salerno, Italy, as the first definite record of typhus.[1] The first outbreak in western Europe which was without doubt identified as typhus was in 1489.[4] Fracastorius in the sixteenth century clearly described the disease under the term "Febris pestilens."[2] Tobias Cober, in 1708, made the first suggestion that the body louse might be the vector of epidemic typhus. The disease was described first in the United States in 1818, in New York City.[4] A final differentiation between typhoid fever and epidemic typhus in the United States was made by Gerhard of Philadelphia in 1837.[4] The description of endemic typhus (New World typhus) by Brill[5] of New York appeared in 1896. In 1900, it was demonstrated that blood from a person infected with typhus, when injected into another human, would produce the disease.[6] The organism probably was seen by Ricketts in 1906 in wood ticks when he was studying spotted fevers.[7,8] Nicholle, in 1909, infected an African ape with blood from a human infected with typhus.[9] In the same year he transmitted typhus from the infected ape to a monkey by the bite of a louse.[9] Ricketts, in 1910, while he was studying Mexican typhus (tabardillo) demonstrated the organism in infected lice.[10] Anderson and Goldberger, in 1910, transmitted typhus from a human to a monkey by means of the body louse and also transmitted Brill's disease from human to monkey by inoculation of the animal with blood from the infected human.[9] In 1910, Wilson described an agglutination of Proteus bacilli by the serum of typhus patients.[11]

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In 1912, Anderson and Goldberger, by immunologic tests,[11] showed Mexican typhus and Brill's disease to be identical. The classical pathologic lesion of typhus was described by Fraenkel in 1914.[12]. In 1915, the Weil-Felix test was introduced as a diagnostic aid.[2] In 1916, da Rocha-Lima and Prowazek demonstrated the organisms in the lining of the wall of the stomach of infected lice and da Rocha-Lima named the organism Rickettsia Prowazeki in honor of the two investigators.[12] In 1930, the endemic typhus organism was obtained from fleas found on Norway rats in Baltimore.[13] This cleared up much confusion as to the epidemiology of the endemic form of the disease.

CLASSIFICATION OF RICKETTSIOSES

The Rickettsial diseases may be divided conveniently into four groups. They are typhus fever, spotted fever, tsutsugamushi fever and Q fever.[4] From the viewpoint of zoologic nomenclature they are classified as follows: family, Rickettsiaceae; genera, Rickettsia and Dermacentroxenus; species (genus Rickettsia), (1) prowazeki of epidemic and endemic typhus, (2) tsutsugamushi of tsutsugamushi fever of Japan and the Orient, (3) ruminantium of heartwater disease in cattle and sheep of South Africa, (4) pediculi of trench fever, (5) diaporica of American Q fever and bruneti of Australian Q fever. Species (genus Dermacentroxenus) rickettsi of spotted fever.[4]

CASE REPORTS

CASE 1.—K. L. S., a white female, age 22, was admitted to the hospital on the eighth day of her illness complaining of headache, generalized muscular aches, chills and fever. Preceding her admission, she had experienced nausea, vomiting and joint pains. She had been seen in the medical clinic six days prior to admission at which time she had a temperature of 102.8 F., stiff neck, flushed face, and a macular rash on the face. No rash could be demonstrated on the trunk or extremities. Hospitalization was recommended but declined at that time. The Weil-Felix reaction on the blood drawn was reported negative. The leukocyte count was 3,650 per cubic millimeter of blood.

Physical Examination.—The arterial blood pressure was 128/68; temperature, 104 F.; pulse, 96 per minute; respiration, 24 per minute. The patient was well developed, well nourished and obese, and appeared acutely ill. The face, neck, trunk and extremities were covered by a maculopapular rash which blanched on pressure but did not disappear. The conjunctivae were injected. There was rigidity of the neck and the Brudzinski sign was positive.

Initial Laboratory Studies.—Blood: The leukocyte count was 7,000 per cubic millimeter. The Kline and Kolmer tests were negative. The Weil-Felix test was positive 1/80. The Widal was negative. Urinalysis was negative.

Clinical Course.—The patient remained in the hospital twelve days. The Weil-Felix reaction was positive 1/80 on the tenth day of the disease and 1/320 on the fourteenth day. By the twelfth day of illness, the rash was clearing and by the fourteenth day it had disappeared. The leukocyte count at this time was 4,400 per cubic millimeter of blood. The hemoglobin was 13 grams per 100 cubic centimeters of blood. The polymorphonuclear leukocytes were 82 per cent; lymphocytes, 10 per cent; basophiles, 1 per cent; eosinophiles, 1 per cent; myelocytes, 2 per cent; smudges, 4 per cent. No petechiae or hemorrhagic areas were found on the skin at any time during the illness. The arthralgia and the muscular aches were distressing to the patient during the early part of the illness and persisted up to the eighteenth day. They were more distressing at night. The spleen was recorded as palpable by one examiner on the twelfth day of the disease. The blood culture taken on the thirteenth day showed no growth. On the fourteenth day the urine showed a trace of albumin and the nonprotein nitrogen was 24 milligrams per 100 cubic centimeters of blood. The patient's temperature was of the remitting type, ranging from 98 F. to 104 F., and came down by lysis to normal on the seventeenth day (chart 1). She was dismissed from the hospital on the twenty-first day of her illness. Convalescence was rapid and uneventful.

Treatment.—The therapy was symptomatic and supportive.

CASE 2.—M. N., a 23 year old white female, was admitted with the chief complaint of 'hurting' all over her body. She had been well up until seven days prior to admission at which time she had become nauseated and had vomited. The following day she had abdominal cramps, and had two chills that night. Following the chills she began to have generalized muscular aches and pains, and a severe headache developed. From the second day to the fifth day of her illness she had two hard, shaking chills, pain in the chest at times, and vomited on occasions. She had had a cough and had been complaining of burning and aching of her eyes for two days preceding admission. She stated that the rash which

was present had developed while she was en-route to the hospital, which, if true, would establish its date of origin on the seventh day of the disease. She gave a history of exposure to rats but denied having been bitten by fleas or other insects. Her father and mother had died of tuberculosis.

Physical Examination.—The arterial blood pressure was 120/60. The temperature was 103.4 F., the pulse was 100 per minute, and respiration 24 per minute. She was well developed, fairly well nourished, and acutely ill. The skin of the trunk and extremities was covered with a maculopapular rash which blanched on pressure but did not disappear. There were no petechiae or hemorrhagic areas observed in association with the rash.

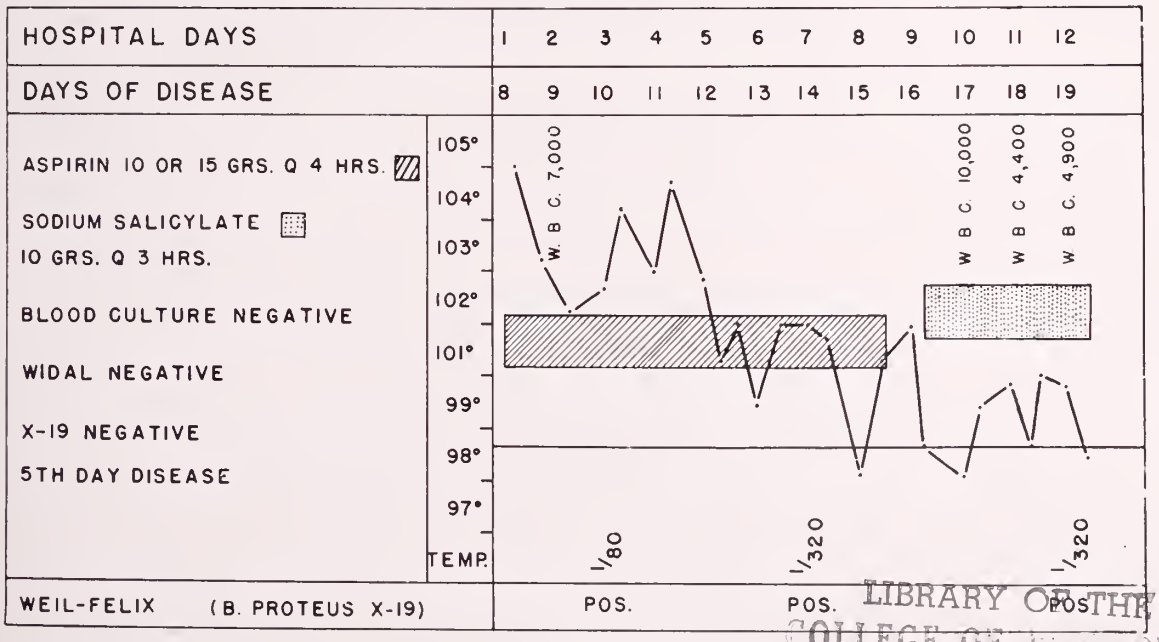
Initial Laboratory Studies.—Blood: The leukocyte count was 4,500 per cubic millimeter. The Weil-Felix reaction was negative, and the blood Kline and Widal tests were negative. The blood culture showed no growth and the smear for malarial parasites was negative. The urinalysis showed normal findings.

Clinical Course.—The general condition of the patient remained fairly good during the seventeen days' stay in the hospital. The fever was of the remitting type, ranging from 97.2 F. to 104.4 F., and came down by rapid lysis on the eighteenth day of the disease (chart 2). The rash began fading on the eleventh day of illness and had disappeared by the fourteenth day. The Weil-Felix reaction was positive 1/80 by the twelfth day, and positive 1/2560 by the nineteenth day. The patient complained of sore throat and hoarseness on the twelfth and thirteenth days of her illness. Symptoms of salicylism intoxication developed during the latter part of the hospital stay. She was discharged on the twenty-fourth day of the disease. Her convalescence was rapid and uneventful.

Treatment.—The therapy was symptomatic and supportive.

CASE 3.—A. H., a 36 year old white male, was admitted to the hospital on the fifth day of his illness. The presenting symptoms were headache, body aches and pains, malaise, cough, nausea and vomiting. His illness from the onset was characterized by persistent headache, generalized muscular aches and pains, high fever, sweats, chills and occasional bouts of nausea and vomiting. The past history disclosed that the patient had been exposed to rats but apparently had not been bitten by fleas or other insects. The patient stated that his daughter had had typhus fever one month previous to his illness.

Physical Examination.—The arterial blood pressure was 112/80; temperature, 104 F.; pulse, 96 per minute; respiration, 21 per minute. The patient was well developed, well nourished, and



TEMPERATURE CHART PATIENT NO. 1

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Temperature Chart 1 (case 1). Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

acutely ill. The skin was warm and was covered with a macular rash which involved the entire body excepting the face, neck, palms, and soles. There was moderate injection of the conjunctivae.

Initial Laboratory Studies.—Blood: The leukocyte count was 4,850 per cubic millimeter of blood. The Kline test and the Weil-Felix reaction were negative. The Widal test and the urinalysis were negative.

Clinical Course.—At times during his stay in the hospital, the patient complained of headache. The temperature was of the remitting type, ranging from 97.4 F. to 104.2 F., and came down to normal on the tenth day of the disease (chart 3). The rash began to fade on the tenth day of illness. There were a few hemorrhagic areas observed in association with the macules. The rash had disappeared by the twelfth day of the disease. On the twelfth day the Weil-Felix reaction was positive 1/320. The patient was discharged on the seventeenth day of his illness. His convalescence was rapid and uneventful.

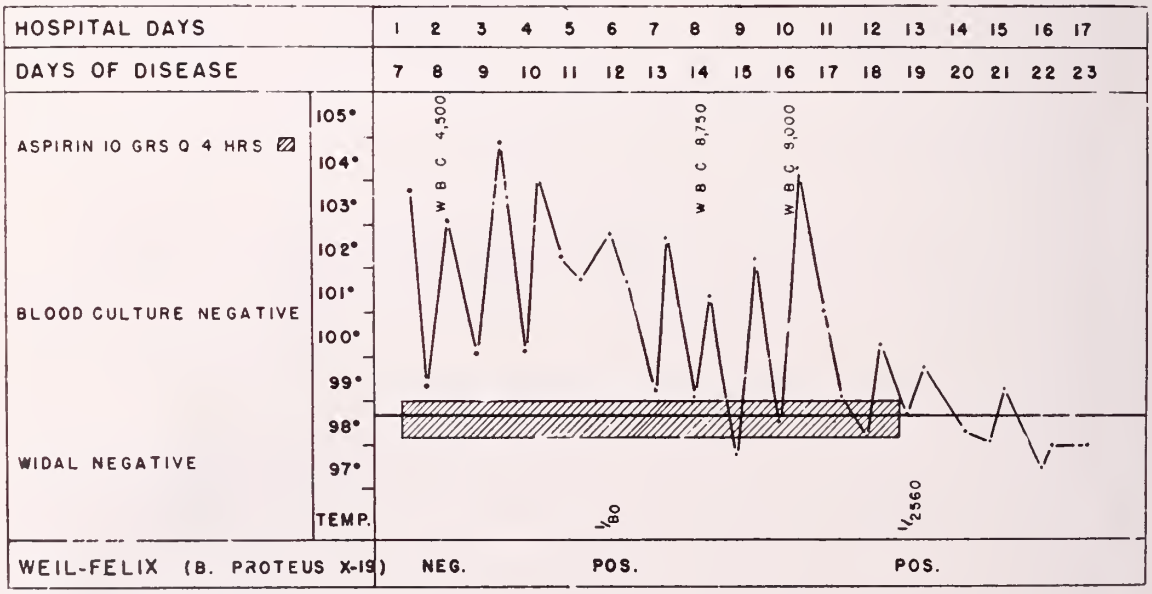
Treatment.—The therapy was symptomatic and supportive.

CASE 4.—J. B., a 71 year old white female, was admitted to the hospital with a history of chills, fever, slight cough, sore throat and rash on chest, abdomen, arms and legs. She was drowsy and uncooperative. History of the duration of her present illness was unobtainable. Time of onset of rash was undetermined.

Physical Examination.—The arterial blood pressure was 150/88; temperature 102 F.; pulse, 92 per minute; respiration, 24 per minute. The patient was very well developed, poorly nourished, drowsy, uncooperative and acutely ill. The skin was warm and dry. A macular rash intermingled with hemorrhagic areas was present on the skin of the abdomen, the shoulders, the chest and the extremities. The conjunctivae were injected.. The throat was injected and the neck was stiff. Lumbar puncture revealed clear fluid and normal dynamics.

Initial Laboratory Studies.—Blood: The leukocyte count was 5,900 per cubic millimeter. The Kline test was negative. Blood culture showed no growth. Spinal fluid: Cytology revealed 11 cells per cubic millimeter of fluid. Chemistry revealed the sugar to be 40 milligrams per 100 cubic centimeters of fluid. The Wassermann reaction was negative. The urinalysis revealed albumin (1 plus) and granular casts.

Clinical Course.—The temperature ranged from 97 F. to 101.6 F. (chart 4). In the early part of her illness, she was restless and responded poorly. Difficulty was encountered in administration of medicine and food. The hemorrhagic rash and rigidity of the neck persisted throughout her illness. Urinary incontinence was present most of the time. With a negative culture and cell count of 11 on spinal fluid, negative blood culture, leukopenia, muscular aches and pains and hemorrhagic rash, endemic typhus was suspected. The blood was examined on the fourth hospital day



Temperature Chart 2 (case 2). Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

by Weil-Felix reaction and was positive 1/320. On the sixth hospital day, thrombophlebitis of the left leg developed. The patient was semi-comatose and Cheyne-Stokes respiration was present. The pupils were constricted and did not react to light. The pulmonary findings on the seventh day were compatible with those of acute bronchitis or early bronchopneumonia. Coma vigil was observed during the eighth and ninth hospital days. She gradually lapsed into deep coma from which she could not be aroused. Flushing of the face was present at this time, and later cyanosis and a tremor of the lower extremities developed. The pulmonary signs, the cyanosis, and signs of cardiac embarrassment became more pronounced and she expired on the eleventh hospital day.

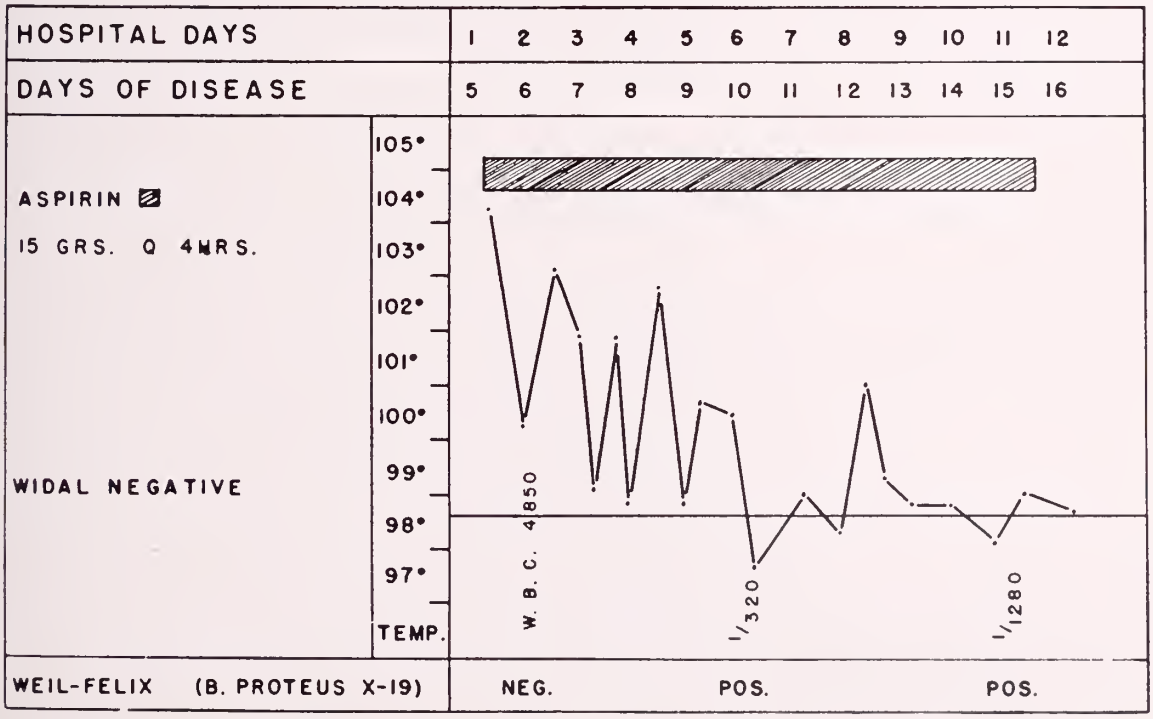
Treatment.—The therapy was symptomatic and supportive. The patient received also sulfadiazine Gms. 4 for an initial dose and Gms. 1 every four hours thereafter. The sulfonamide drug therapy was continued after the diagnosis of typhus had been made because of pulmonary complications.

CASE 5.—A. J., a 42 year old white female, was admitted to the hospital with complaints of backache, fever and malaise. The onset of her illness was four days prior to admission at which time she had a chill followed by extreme malaise, high fever, sweating, pain in back and aching of the extremities. The patient complained of pain in the right upper quadrant of the abdomen. A history of exposure to rats was obtained. She had had typhoid fever. There was a family history of diabetes mellitus.

Physical Examination.—The arterial blood pressure was 100/60; temperature, 105 F.; pulse, 100 per minute; respiration 32 per minute. The patient was well developed and poorly nourished, mentally clear, and acutely ill. The skin was warm and of a moist and elastic consistency. A macular rash was present over the abdomen.

Initial Laboratory Studies.—Blood: The leukocyte count was 5,100 per cubic millimeter of blood. The hemoglobin was 14 grams per 100 cubic centimeters of blood. The Kline test and the Weil-Felix reaction were negative. The Widal test was negative. The blood culture drawn on admission showed no growth. The urinalysis showed no abnormalities.

Clinical Course.—On the sixth day of the disease the patient was still complaining of pain in the right upper quadrant of the abdomen and pressure in this area increased the pain. The pain radiated to the lumbar region of the back but not to the shoulders. This abdominal pain



TEMPERATURE CHART PATIENT NO. 3

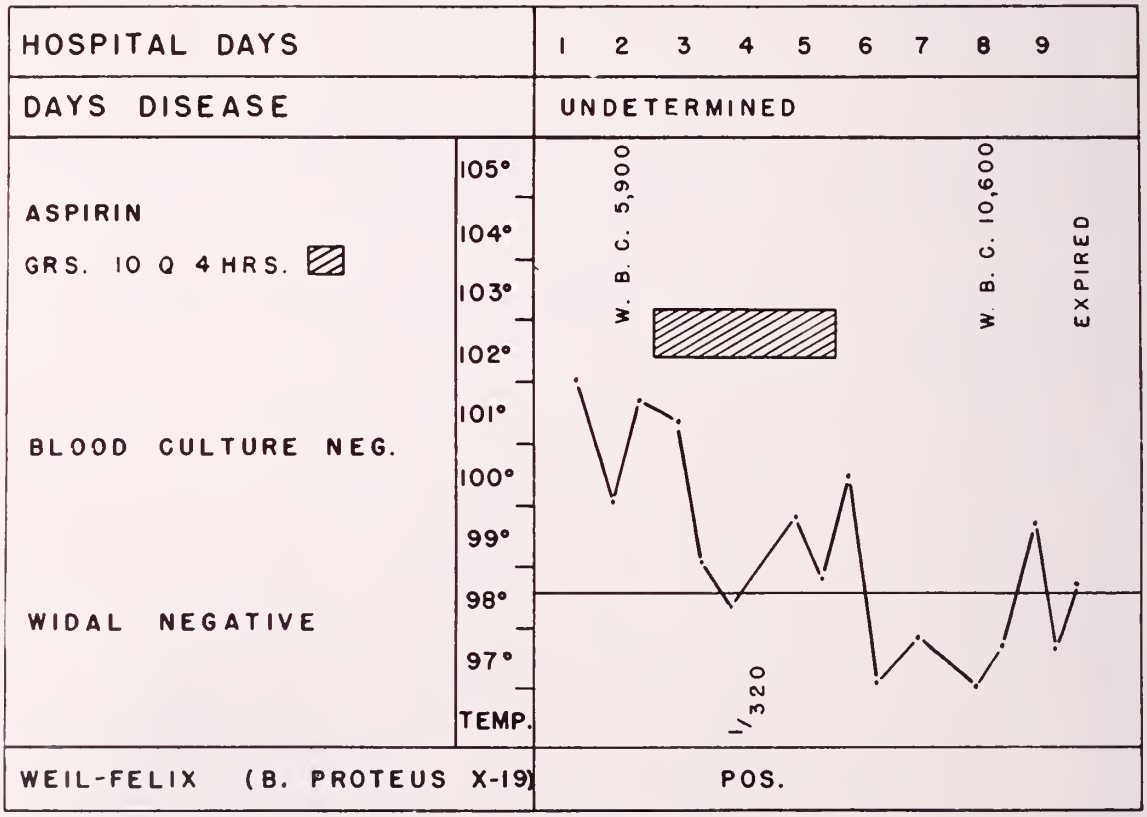
Temperature Chart 3 (case 3). Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

and discomfort persisted for three or four days. By the eighth day of illness, she was very nervous and responsive to any external stimuli. At this time, there was some increase in the amount of rash and the temperature was of the continuous remitting type (chart 5). On the ninth and tenth days, the macular rash was pronounced and involved the face. Emotional disturbances and mental aberration were quite noticeable at times. Urinalysis at this time revealed albumin (1 plus). The leukocyte count was 9,050 per cubic millimeter of blood and the differential count revealed polymorphonuclear leukocytes to be 80 per cent; lymphocytes, 13 per cent; myelocytes, 2 per cent; monocytes, 2 per cent; smudges, 3 per cent. Toxic granules were present in the leukocytes. On the thirteenth day of illness lumbar puncture revealed clear fluid and normal dynamics. Cytology: 4 cells per cubic millimeter of fluid. Chemistry: total proteins, 66 milligrams per 100 cubic centimeters of fluid; Wassermann, negative. The spleen was not found to be palpable at any time during the patient's illness. The Weil-Felix reaction was positive 1/320 titre on the ninth day of the disease and positive 1/320 titre on the twenty-third day. The rash began fading on the fourteenth day and disappeared on the seventeenth day.

During the latter part of the illness, diarrhea was present in a mild form and sore throat and sore tongue was complained of for a short time. There was some swelling and apparent stiffness of the tongue. On the twenty-second day of the disease, the leukocyte count was 9,000; erythrocyte count, 3,840,000 per cubic millimeter of blood; hemoglobin, 10 grams per 100 cubic centimeters. The patient's temperature came down to 101.2 F. and she showed marked signs of improvement. The symptoms rapidly disappeared, the temperature dropped to normal and the patient was discharged on the twenty-sixth day of the disease. Convalescence was rapid and uneventful.

Treatment.—The therapy was symptomatic and supportive.

CASE 6.—C. B., an 18 year old colored female, was admitted to the hospital complaining of headache, chills and aching of the extremities. The headache had begun twenty-four hours prior to admission. The patient had been delirious for about one hour before being brought to the



Temperature Chart 4 (case 4). Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

hospital. There had been some backache and pains in joints which had been present for about forty-eight hours. There had been slight burning on urination. The patient denied exposure to rats and insect bites. She was under treatment for syphilis at the time of onset of the illness.

Physical Examination.—The arterial blood pressure was 118/60; temperature, 103.8 F.; pulse, 132 per minute; respiration, 26 per minute. The patient was well developed and well nourished, mentally confused, and acutely ill. The skin was warm and moist and no rash could be found. There was some injection of the pharynx.

Initial Laboratory Studies.—Blood: The leukocyte count was 4,250 per cubic millimeter of blood; hemoglobin was 13 grams per 100 cubic centimeters of blood. The blood Kline test was positive. The Weil-Felix reaction and the Widal test were negative. The spinal fluid pressure was within normal range. The urinalysis revealed a trace of albumin and an occasional white blood cell.

Clinical Course.—The symptoms during the first two days of the hospital stay were compatible with those of any acute infectious disease characterized by chills, fever, and generalized aches and pains. The fever was of the continuous remitting type, ranging from 97.8 F. to 104.6 F., and came down by rapid lysis on the twelfth day of the disease (chart 6). On the fifth day of illness a maculo-papular rash appeared on the face and body. Pruritis of the skin was associated with the rash. Photophobia and injection of the conjunctivae were present on the fifth day of the disease. The photophobia was a prominent symptom and persisted for two or three days. The leukocyte count was 4,050 per cubic millimeter of blood and differential revealed polymorphonuclear leukocytes to be 60 per cent; lymphocytes, 28 per cent; myelocytes, 9 per cent; eosinophiles, 2 per cent; monocytes, 1 per cent. The patient complained of a sore throat on the sixth day which persisted up to the tenth day of illness. A small amount of exudate was found on the tonsils on one occasion. The Weil-Felix test was repeated on the twelfth day and was positive 1/640 titre. The temperature returned to normal, the symptoms subsided and the patient was discharged on the eighteenth day of the disease. Her convalescence was rapid and uneventful.

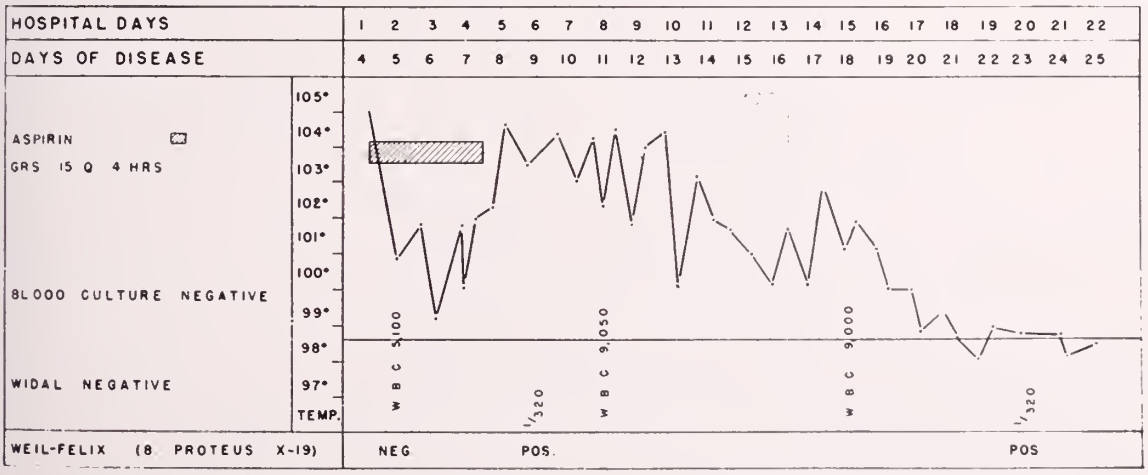
Treatment.—The therapy was symptomatic and supportive.

CLINICAL OBSERVATIONS

The statistics of these cases are as follows: 16 males and 8 females, which gives a 2:1 ratio (figure 2); 14 caucasians and 10 negroes, giving an approximate ratio of 3:2 (figure 2). The age incidence was between 15 and 71 years, with 42 per cent of the cases in age group 20 to 40 years (figure 2). However, although this study of 24 cases of endemic typhus is too small to be of any statistical value, the findings agree favorably with other similar studies.

No conclusions could be drawn from this group of cases as to social and economic classes affected by the disease because they were all from the charity service. They were listed by occupation, as follows: one as unemployed (occupation not given), 1 as a student, 4 listed as housewife, 4 as having no occupation, and 14 as laborers (including waiters, mechanics, engineers, truck drivers, and office helpers).

The fever was of the remitting type. The lowest temperature recorded was 95.8 F. and the

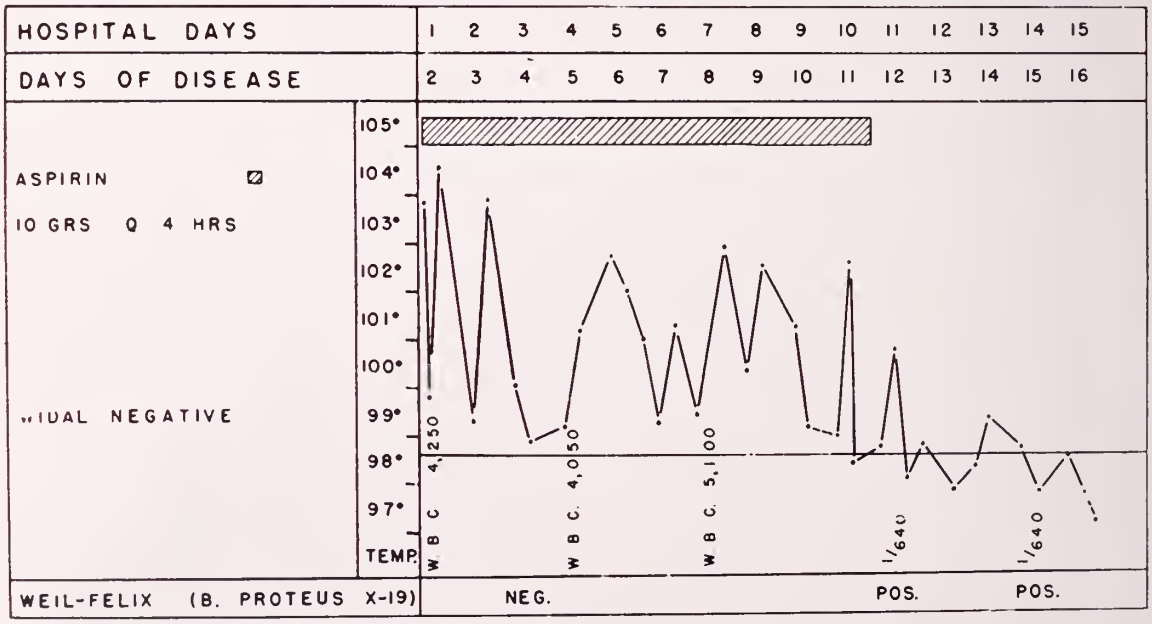


Temperature Chart 5 (case 5), Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

highest 105 F. The daily mean average for the febrile period was between 101 F. and 102 F. The daily average fluctuations were between 1.5 and 2 degrees Fahrenheit. There were elevations following the return to normal in a number of cases, which could be interpreted as a post-critical rise (charts 1, 2, 3, 6). Sixteen of the patients received acetylsalicylic acid and sodium salicylate for the relief of pain and pyrexia with no specific influence on the clinical course (temperature charts). The duration of the fever and fastigium was determined in 16 cases. The shortest duration was nine days and the longest was twenty-one days, with an average duration of fourteen days. The fastigium was reached between the third and ninth day with an average of six days.

Fifteen patients (63 per cent) revealed skin manifestations (figure 3). In several of the patients, the skin appeared hyperemic. In 3 cases, there was flushing of the face. Pruritis was complained of in only one case. Its relation to typhus, if any, was not decided. The rash appeared between the fourth and seventh days of the disease. It usually began fading from four to six days following its first appearance. It was of the maculo-papular type, varying in color from rose-red to dark red, and in one instance it was of a copper-like color; it was irregular in contour, did not appear in crops, and blanched on pressure, but did not disappear. The lesions varied in size, with a diameter of 2 to 4 millimeters, and were elevated to about 1 to 2 millimeters. The rash was observed first on the abdomen, back and chest in practically all cases. It spread to the upper arms and thighs, and later to the lower arms and legs. The face was involved in three of the cases. In no instance were the soles and palms found to be involved. The rash was found to be hemorrhagic in 2 of the cases; in 1 there were only a few petechiae present, and in the other case, which ended fatally, there was a diffuse hemorrhagic lesion intermingled with the maculo-papular areas (cases 3 and 4). Of the 10 cases in negroes, skin lesions were found in only two and were questionably present in a third.

Pain in the chest was complained of in some cases. In view of the normal roentgenograms of the chest and the comparatively normal physical findings, the chest pain was considered a part of the generalized myalgia and arthralgia. Cough was a symptom in about 30 per cent of the cases and was dry and nonproductive (figure 3). Six patients had roentgenograms of the chest, all of which were reported as normal. The physical signs in the chest were not remarkable except in the case ending fatally wherein they were compatible with bronchial pneumonia (case 4). The respiratory rate was somewhat increased during the febrile period and averaged about 24 per minute. Cheyne-Stokes respiration was observed terminally in the fatal case (case 4).



TEMPERATURE CHART PATIENT NO. 6

Temperature Chart 6 (case 6). Graphic illustration of the febrile course, certain laboratory procedures and the use of an antipyretic drug.

Nothing unusual was observed from the cardiac standpoint excepting an increased pulse rate during the febrile period. The average pulse rate during this period was about 86 per minute. The pulse wave was not considered to be dicrotic. There were no arrhythmias or other abnormalities of the pulse observed. An electrocardiogram was taken in one instance and was considered to be within normal range. Six of the patients could be considered as having elevated arterial blood pressure if 135 systolic and 90 diastolic is considered as the upper limits of normal. The lowest pressure recorded was 100 systolic and 60 diastolic and the highest 164 systolic and 120 diastolic. The mean average arterial pressure for the group was 123 systolic and 79 diastolic.

The urinary findings, in the presence of the febrile state, could not be considered remarkable; however, if such findings were present in the absence of fever, a renal evaluation would be required. Thirteen of the cases revealed abnormal urinary findings, which consisted of albumin (varying from a trace to 2 plus), pus cells and granular casts. The cases with 2 plus albumin and granular casts had blood pressure elevations sufficiently high to be classified as hypertensive vascular disease.

Abdominal pain was complained of in 25 per cent of the cases at some time during the hospital stay (figure 3). The spleen was found to be palpable in two of the cases. Anorexia was recorded as present in 20 per cent of the cases (figure 3). Nausea and vomiting were present in 30 per cent of the cases (figure 3). Glossitis was found in one case during the latter part of the illness (case 5). Diarrhea was present in one case and there was a history of diarrhea before admission in one case. Constipation, which is listed as one of the common findings, was found in only 20 per cent of the cases (figure 3).

Ten of the patients had some sign or symptom referable to the central nervous system. Headache was an outstanding symptom and was present in 79 per cent of the cases (figure 3). Pain elsewhere in the body also was a prominent symptom, especially in the form of generalized muscular aches and backaches. Insomnia was observed in 29 per cent, nervous irritability and emotional disturbances in a smaller number (figure 3). Some of the patients were apprehensive and very susceptible to external stimuli. A few were drowsy, confused, dull, delirious at times and uncooperative. Semicoma was present in one case, later progressing to coma, the case ending fatally; coma vigil was observed also (case 4). Rigidity of the neck was present in three cases and positive Brudzinski in one case.

Complications occurred in only one case. These were thrombosis of the femoral vein and bronchopneumonia. The case ended fatally. There were signs which indicated injury (vascular accident) to the central nervous system in this case which might be explained on the basis of thrombotic lesions due to typhus lesions. The glossitis mentioned in case 5 remains unclassified as to whether it was a complication, a symptom of the disease or a finding in no way related to the Rickettsial infection.

Convalescence was rapid and uneventful. As soon as the temperature came down to normal, the patients expressed themselves as having a feeling of well being and a desire to go home. There were no sequelae observed in any of the cases at the time of their discharge from the hospital and none returned with any sequelae.

The mortality rate was 4 per cent. According to Baker, McAlpine, and Gill[14] the 71 year old patient would fall in the age group over 65 years which carries a 30 per cent mortality.

LABORATORY OBSERVATIONS

Lumbar puncture was done in seven cases or 29 per cent. The dynamics were normal in all cases. The spinal fluid was clear. Cytology: the cell counts ranged from 2 to 11 per cubic millimeter of fluid. Chemistry: total proteins ranged from 30 to 66.6 milligrams per 100 cubic centimeters of fluid. Bacteriology: routine cultures on the fluid revealed no growth. Serology: the Wassermann reaction was negative in six of the cases and doubtful in one case. The patient showing a doubtful Wasserman reaction gave no history of syphilis and the blood Kline and Kolmer were negative.

The Weil-Felix reaction with B. proteus X-19 was positive in all cases (figure 2). The initial reaction was negative in six incidences. Fourteen of the cases revealed an increase in titre as the disease progressed. The average time at which a titre of 1/320 was reached was twelve days. The highest titre recorded was 1/2560. This last titre was obtained in three cases between the fourteenth and nineteenth days of the disease. Two cases showed a positive Widal reaction in titre of 1/40 for typhoid and one positive for tularemia in titre of 1/160. In reviewing the laboratory data, it would be reasonable to assume the time of appearance of the first positive agglutination reactions to be between the fourth and tenth days of the disease in this group of cases.

The blood counts in these patients could not be considered remarkable. The leukocyte count

ranged from 3,200 to 12,750, giving an average leukocyte count of 6,876 per cubic millimeter of blood (figure 2). Blood cultures were obtained in fifteen of the cases, all of which were reported as being negative. Serologic tests for syphilis were obtained in 23 of the cases and 5 positive reactions were reported. In three of the cases with positive serology, there was a history of syphilis. There was no follow-up work on the other two patients with positive reactions after they left the hospital and therefore no conclusion could be drawn as to the causes of the positive serology.

DISCUSSION

Incidence and Distribution.—The period of existence of endemic typhus in the United States and other countries would seem to be an open question. Its first description as a disease entity by Brill[5] established its presence on the Atlantic seaboard as early as 1896. Georgia is the oldest recorded focus in Southeastern United States, a case having been reported from Atlanta in 1913.[15,16] The presence of the disease was first recognized in California and southern Texas about 1916.[9,15] The first case reported in Alabama was in 1922 and during 1932 and 1933 there were 1,029 cases reported.[17] The first case reported in Tennessee was in 1923, from the western portion of the state.[18] During 1939 there were 75 cases reported in Nashville and during the period from 1935 to July 1944, the diagnosis of endemic typhus fever was made on 156 patients at the Nashville General Hospital.[18,19] From July 1, 1944 to December 31, 1944, there were 33 cases of endemic typhus admitted to the Nashville General Hospital.[19] This number represented 0.97 per cent of all admissions for that period. This series of cases and others reported in Nashville since 1935 would indicate that the disease has established itself in the city over a rather short period of time. Practically all cases in this series either lived or worked in sections of the city known to be centers of foci for endemic typhus. Until 1929, endemic typhus had been reported from 22 states and the District of Columbia.[20] The reports of the U. S. Public Health service show that 90 per cent of the cases of endemic typhus reported are from Alabama, Georgia and Texas.[21]

Seasonal Variation.—Endemic typhus fever primarily is a disease of the warmer climates, or one occurring during the warmer months of the year in cooler climates.[22] The cases studied by Brill[22] occurred during the spring and summer months. The time of its most common occurrence is during the summer and fall months.[23,24] Of the 75 cases reported in Nashville during 1939, 67 occurred during September, October, and November.[18] Of the 24 cases in this study, 16 occurred during September, October, and November (figure 1). The findings in this series, as to seasonal variation, agree favorably with those of other investigators.

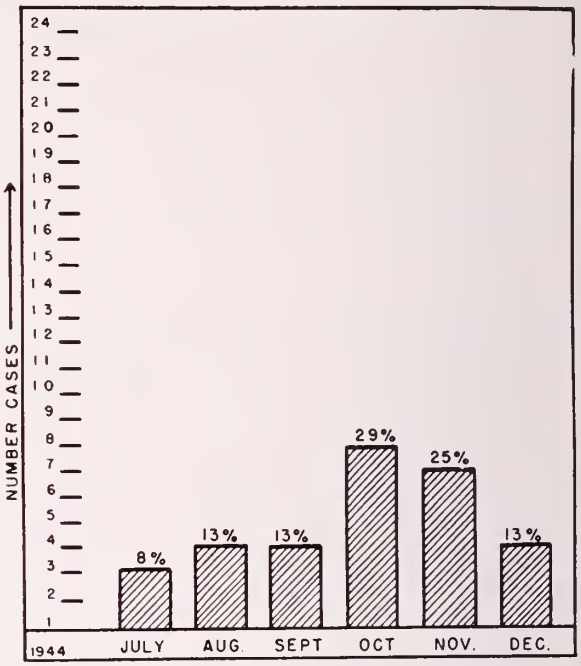


Fig. 1. Illustration showing the relation of the disease to the season of the year and distribution of cases by months.

Occupation and Status.—In endemic typhus, occupation is a factor of considerable importance and the disease is known to be associated with workers in warehouses, storehouses, groceries and other food industries.[25] The disease shows no predilection for any strata of society.[13] The factor of primary importance is the victim's association with the reservoir (rat or other rodent) and the vector (usually rat flea).

Age, Sex and Color.—Males are infected more frequently than females and the Negro less frequently than the Caucasion. The ratio of infected males to that of females is about 2:1.[26] The highest incidence of the disease is found in the age group between twenty and forty years.[16,27] In a group of 138 cases studied by Blatteis,[12] the age ranged from fourteen to seventy-two years. The Negro race appears to be less susceptible than the Caucasian race to infection with the organism known to produce the endemic form of the disease.[28] Quoting Maxcy, the negro enjoys almost complete immunity to the disease.[12] This opinion does not seem to be shared by later observers nor was it justified in my series of cases (figure 2). Quoting

from Baker, McAlpine and Gill,[14] the incidence in the negro seems to be about one-tenth that of the white population. Beginning in 1932 the Negro race has furnished a little less than 10 per cent of the reported cases.[29] According to Tucker, Woodring, and Essick,[18] the ratio of white to colored was 4:1. The ratio of white to colored in my series was about 3:2.

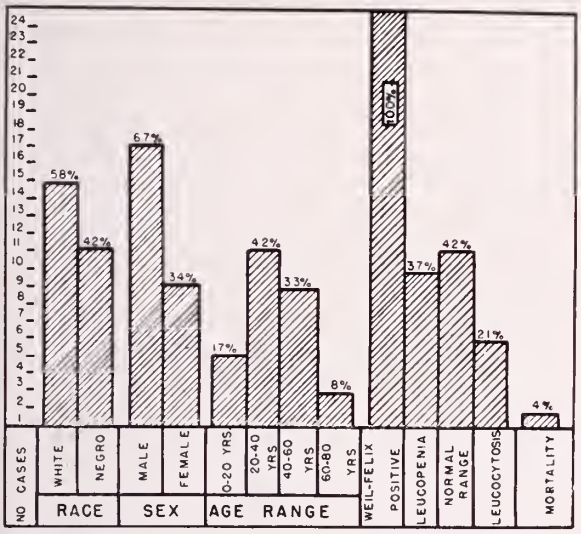


Fig. 2. Illustration showing race, sex, age relations, mortality rate and certain laboratory findings.

Etiology and Epidemiology.—When the disease was first described by Brill[5] in 1896 and referred to as a "disease clinically resembling typhoid fever, but without Widal reaction", it was not recognized as typhus fever. The cause and method of transmission were not established at that time. Many of the cases referred to as "abortive typhoid" may have been endemic typhus. The etiology was established by Ricketts in 1910.[11] Dyer, Cedar, Rumreich, and Badger,[13] in 1930, demonstrated that the rat served as a reservoir and the rat flea acted as a vector. The accepted etiologic agent of the disease at the present time is Richettsia prowazeki var. mooseri. The Richettsial organism may be attenuated by passage through different arthropod vectors.[28] There is some evidence, as shown by Wolbach in 1940, that endemic typhus may be transmitted to animals through the alimentary tract.[25] Nicolle has demonstrated the presence of Richettsiae in the urine of rats infected with endemic typhus and has suggested that contamination of food products by rats should be considered as a method of transmission.[25] There is no evidence that natural or racial immunity exists.[28]

Endemic typhus fever is a disease of rodents, chiefly rats, and is transmitted to man accidentally through the agency of arthropod vectors, the rat flea being the chief offender. There are other animals known to be susceptible to this form of typhus. Experimentally, different investigators have found the monkey, chimpanzee, opossum, cat and pigeon susceptible to endemic typhus.[30] Susceptibility to infection experimentally or naturally, occurring in guinea-pigs, rabbits, squirrels, hedgehogs, spermophiles, gerbils, woodchucks and a number of species of rats and mice has been demonstarted.[30] The big brown rat or Rattus norvegicus probably is the most important rodent of the animal reservoir.[3,21] The demonstration of susceptibility to infection in the above mentioned animals would tend to support the theory that the disease is spreading from urban to rural sections and that animals other than rodents may become infected and act as reservoirs of the disease.

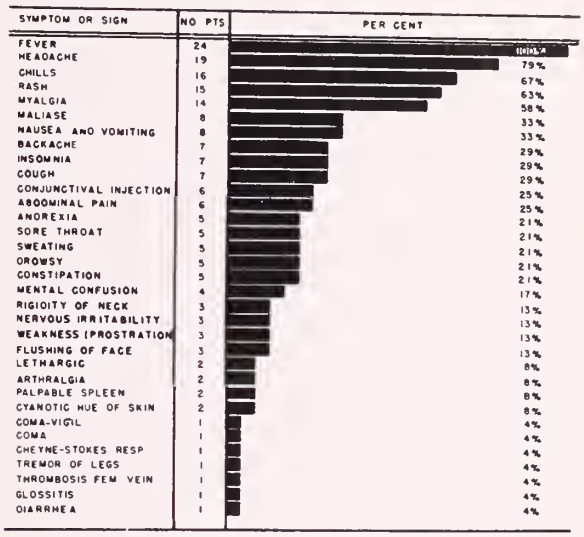


Fig. 3. Illustration giving a summary of the symptoms and physical findings in the twenty-four cases reviewed.

The most important of the arthropod vectors is the tropical rat flea (Xenopsylla cheopis and Xenopsylla astia), rat louse (Polyplax spinulosa) or mite (Liponyssus bacoti).[25] The rat louse does not feed on the human but there is some evidence that the rat mite may transmit the disease (Dove and Shelmire, 1931).[25] The Rickettsia produces no apparent disease in the flea and has been shown to be virulent for fifty days after the last feeding on infected material.[21] The Rickettsia produces the disease in the rat louse and the arthropod dies within two or three weeks.[25] These vectors do not inoculate the host by the act of biting but they deposit the Rickettsial organisms in their excreta and the organisms gain entrance through skin abrasions. The endemic form of the disease may be converted into the epidemic form through the agency of the

body louse. However, this theory is not accepted as proved.[28]

Incubation.—The incubation period of endemic typhus fever in the human is determined with difficulty. It has been given by various observers as varying from two to seventeen days.[1, 2, 12, 20, 31, 32, 33, 34, 35] The most acceptable period for incubation in the human would seem to be seven to fourteen days. The incubation period could not be determined with any degree of certainty in any of the cases presented in this study.

Fever.—The fever in endemic typhus is of the continuous remitting type and according to McNeil[36] and Christian[22] it has an average duration of twelve to fifteen days. It usually returns to normal by rapid lysis or by crisis. Quoting from Brill[26] and Maxcy[37] it may reach an acme or maximum height from the second to the eighth day of the disease. Brill,[5] in his cases, gave the fifth day of the disease as the usual time of the acme. The fever usually varies between 103 F. and 104 F.[5,9,38] There is, as a rule, a morning remission of 1 or 2 degrees Fahrenheit. Patel,[39] in his group of cases, has described a post-critical rise in some instances. Some observers have found that the fever may come down to normal by the eighth day of the disease and others have described it is persisting for twenty-one days.[36,40] Fletcher and Lesslar[22] found that the temperature returned to normal in 40 per cent of the cases by crisis and in 60 per cent by rapid lysis, and was highest between the eighth and eleventh days of the disease. Baker, Archer and Mitchell-Heggs[41] comment that the onset of fever was sudden in 50 per cent and gradual in 50 per cent of the cases observed. In this series of cases, the average duration of the febrile period was fourteen days. The average time at which the fastigium was recorded was the sixth day. The temperature returned to normal by rapid lysis. There was rapid subsidence of symptoms associated with the termination of the febrile period.

Skin Manifestations.—The rash is described most frequently as maculo-papular, slightly raised, dull red in color, rarely hemorrhagic, and not appearing in crops. It blanches on pressure but does not disappear on pressure. The regions of the body most commonly involved in order of appearance are the abdomen, back, chest, upper arms and thighs.[5,32] The lower arms and legs are involved less often than the upper, and the face, palms and soles rarely are involved.[41,42] The usual time of appearance of the rash is about the fourth or fifth day of the disease; it reaches its full development in twenty-four to forty-eight hours, begins to fade in about four days and the skin usually is clear by the time convalescence has been established.[8,25,33,37] The rash may appear as early as the second day of the disease, according to Maxcy,[37] or as late as the tenth day, as observed in Johnson's series.[40]. Brill[5] comments on the rash as being sometimes absent. Sellers[3] and Lewis[43] have described the duration of the rash in some cases as varying from two to nine days. In some of the cases observed by Maxcy,[37] the rash became petechial and reached a maximum in four to six days. According to Sydenstricker,[33] the rash may be preceded by a general hyperemic blush. When the skin is blanched, many of the spots do not return to the original color but instead leave a brownish stain. Brill[5] describes the rash seen in his cases as rose-red papules, only slightly raised, disappearing completely on pressure, as a rule, and reappearing when pressure was released; the papules were not numerous, were lenticular in shape, some acuminated with minute vesicles on top. Mayer[44] describes the rash as maculo-papular, dull red in color, slightly raised, irregularly round or oval, varying in size from two to four millimeters, not disappearing entirely on pressure and never appearing in crops. It has been commented on by different observers as appearing morbiliform rather than roseolar, also as a "dirty pink color", a "dirty measley rash", and Maxcy has described some lesions with a dark center giving a "flea bitten" appearance.[12,34,36,37]

In the present study of cases, skin lesions were demonstrated in 63 per cent. The most frequent time of appearance of the rash was the fourth to seventh day of the disease. The average time at which the rash began to fade was the fifth day following its first appearance. There was a hemorrhagic reaction in 8 per cent of the cases. The ratio of white to colored patients revealing skin manifestations was 4:1. The physical characteristics of the rash which have been described under clinical observations agree favorably with those of other observers.

Respiratory.—The pulmonary signs in endemic typhus differ considerably as to severity and duration in the different groups studied. Maxcy,[37] in his description of pulmonary signs and symptoms, comments on a "hacking cough" in 90 per cent of the cases. In his group of 208 he had one case with bloody sputum and two cases of bronchial pneumonia. Cummings[9] has listed bronchitis as one of the seven dependable clinical signs of typhus. Fletcher and Lesslar[22] found bronchitis so frequently in the cases observed

that they considered it a symptom of the disease rather than a complication. As to complications, Piersol[10] gives bronchial pneumonia first place in this disease entity. Patel[39] found bronchitis to be present in almost all cases studied in Bombay. Observations on the cases reported in the present series revealed pulmonary signs and symptoms in 30 per cent. A dry nonproductive cough was the most common symptom. One case revealed a terminal bronchial pneumonia.

Cardiovascular-Renal.—In an analysis of the literature, one is impressed by the absence of cardiac signs and symptoms. Brill,[26] in his cases found the pulse often to be dicrotic. Maxcy[37] reported three sudden deaths in young men and comments that the cause of death may have been due to myocardial failure or emboli. Sydenstricker[33] found the average pulse rate to be 90 per minute and the blood pressure to be low. Mease[45] states that the pulse may be dicrotic and epistaxis also may occur in some cases. He observed, in addition, the blood pressure to drop progressively, often as much as thirty millimeters. The drop in systolic pressure was more marked than that in the diastolic. Ernstene and Riseman[8] give the pulse rate as ranging from 90 to 130 per minute, and Johnson[40] found tachycardia in two out of nine cases. The cardiac findings, in the cases observed in this study, were not remarkable. Hypertension was present in six of the cases but it was believed to be independent of the Rickettsial infection.

The urinary findings in the cases observed by Brill[5] were not considered of interest. Gardner and Brown[46] list albumin as a constant finding in the urine. In the observations of Baker, Archer and Mitchell-Heggs,[41] albumin, red cells and casts were found in the severe cases. The urinary findings in the cases reviewed and the cases in this study were not extraordinary and could be considered compatible with the urinary findings in any acute infectious febrile disease.

Gastrointestinal.—The gastrointestinal symptoms most encountered are loss of appetite, nausea and vomiting. Abdominal pain and discomfort are noted occasionally and distention encountered rarely. Brill[5,26] observed anorexia to be most frequent during the first three days of the disease. Rumreich lists nausea as one of the most common symptoms when the disease is at its climax.[13] Maxcy[37] found that nearly always some nausea and vomiting were present. Gardner and Brown[46] comment that constipation is most marked between the eighth and twelfth days of the disease. He states also that diarrhea may occur about the same period in the course of endemic typhus. Plotz[47] found diarrhea in 27 per cent of cases studied in Jamaica. In one of the cases observed by McGillivray,[48] there was much abdominal distention present. Severe glossitis has been reported by Patel[39] in endemic typhus in Bombay. Glossitis was observed in one case in my series in the late stage of the disease. There does not seem to be any explanation as to the relation that glossitis in these cases may bear to the Rickettsial infection.

Splenomegaly.—Palpableness of the spleen seems to vary a great deal in the different groups studied. Brill[5] commented on splenic enlargement in his group of cases reported in 1898 but gave no figures. In 1910, he reported that the spleen was palpable in 27 per cent of the 50 cases studied. McNeil[32] describes the spleen as often palpable. Fletcher and Lesslar[22] frequently found the lymphatic glands and spleen to be enlarged. Sydenstricker[33] found the spleen to be palpable in 50 per cent of his cases. Ernstene and Riseman[8] could demonstrate the spleen to be palpable in only one of their ten cases. In the present series a palpable spleen was demonstrated in only two of the twenty-four cases.

Neuropsychic Manifestations. — The nervous system is involved in a certain number of cases giving both nervous and mental signs and symptoms. These may be mild and transitory or may be of a rather severe and persistent nature during the period of high fever. Brill[5] described the patient as apathetic and with dulling of the sensorium which was most outstanding about the fourth and fifth day of illness when the fever was highest. Twenty-five per cent of the patients described by Fletcher and Lesslar[22] suffered from delirium. Smith and Evans[27] found the patients to be mentally clear during the day with the occurrence of delirium at night. Baker, Archer and Mitchell-Heggs[41] have described the presence of insomnia, drowsiness, lethargy and an uncooperative state. Patel[49] describes apathy, cloudiness of sensorium, nervous excitement and deafness and when these manifestations are present in severe form they are referrd to as the "typhus state". Pseudobulbar paralysis, chorea-like movements and indistinct slurring speech were observed in some of his cases. Rigidity of the neck and a positive Brudzinski sign were the most commonly found indications of meningeal irritation in the group of patients with signs of nervous system involvement.

Pathology.—The endothelial cell in this Rickettsial disease is the site of the specific lesion. Maxcy[37] comments on the distinctive pathology of typhus as based upon acute lesions of the

blood vessels, with thrombosis and perivascular accumulation of cells derived from the adventitia and the blood. Quoting from the article by Blatteis,[12] Fraenkel, in 1914, described what is considered to be pathognomonic of the disease. The following is his description: "The focal lesions are found in minute arterioles and capillaries, and consist of marked swelling and proliferation of the lining endothelium, perivascular round cell infiltration and a tendency to obliteration of the lumen by hyaline (blood-platelets) thrombi". Autopsy was not obtained in the fatal case in this study and therefore adds nothing to the pathologic literature on endemic typhus.

Convalescence.—The period for complete recovery varies considerably with different groups and with different individuals. Convalescence seems to be rapid or of short duration in most instances, rather than prolonged. Fletcher and Lesslar,[22] in their group of cases, report a rapid convalescence. Piersol[10] comments on a rapid convalescence in this disease entity. Maxcy[37] describes the period of convalescence as one week in bed and one or two months before returning to work. In the group of cases presented in this study, the convalescence was rapid. Many of the patients, within twenty-four hours after the temperature had returned to normal, stated that they felt good and wanted to go home. There were no mental abnormalities observed in any of the cases after defervescence or during convalescence.

Complications.—Complications are unusual in this disease entity, rather than usual. They are more common in the aged and in those addicted to alcohol. They vary in the different groups studied and what one group of investigators might classify as complications might be considered a part of the symptom complex by another group. For example, there is difference of opinion as to whether tracheobronchitis or bronchitis so often associated with the disease should be listed as a complication or as a symptom of the disease. Some of the complications listed are suppurative parotitis, jaundice, thrombosis, and bronchopneumonia.[34,37] Bronchial pneumonia would seem to have first place as a complication. Maxcy,[37] in a series of 114 cases, recorded complications in only four. In this present group of 24 cases, complications occurred in only one, which terminated fatally, and they were thrombosis and terminal bronchial pneumonia.

Mortality.—The mortality rate generally accepted for endemic typhus is about 2 per cent.[13,22,38,50] However, it varies according to age, race and the general condition of the individual infected. Cummings and Senftner,[9] in a study of thirty-one cases, give a mortality rate of 9.7 per cent. Caplan and DeRosa[51] list the mortality rate as being three to four times as high in the colored race as in the white. Baker, McAlpine and Gill[14,17] give the mortality rate by age groups as follows: under 45 years, 2 per cent; 45 to 64 years, 5 to 7 per cent; over 65 years, 30 per cent. They also give a mortality rate of 11.7 per cent for the colored race. The mortality rate in the present clinical study of 24 patients was 4.16 per cent; however, it is too small a group to be of any statistical value.

Weil-Felix Reaction.—This reaction is not specific in that the antigen is not prepared from the causative agent of endemic typhus. The same can be said of the Weil-Felix reaction as of any laboratory procedure and that is, that it must be interpreted in the light of all the findings in the case. There would seem to be no definite agreement as to what titre is considered positive or diagnostic of the disease, especially in the lower dilution brackets. The following comments from the literature give some of the different viewpoints on titre in relation to positivity or diagnostic value:

The occurrence of agglutination in a dilution of 1/50 or more should be considered positive, since agglutinins are ordinarily not found in normal serum in a titre of more than 1/25 or 1/50.[28] In the cases observed by Maxcy[37] a titre of 1/80 or less was considered doubtful. Fletcher and Lesslar[22] consider a titre of 1/200 or above as positive evidence of the disease. Sellars[3] considers a titre of 1/160, or less, suspicious. Caplin and DeRosa[51] state that titres of 1/320 and 1/640 should be respected. Titres may go as high as 1/50,000.[28,52] Sydenstricker[33] lists the incidence of positive reactions to endemic typhus at 90 per cent and the B. proteus X-19 was agglutinated more constantly and in higher dilution than was B. proteus X-2. In this group of cases, the Weil-Felix reaction was positive in 100 per cent of the cases at some time during their infection.

The time of appearance of the agglutinins in blood in detectable amount varies over several days. Hoyes[50] states that it usually becomes positive between the seventh and tenth days of the disease and never before the appearance of the rash. Dyer, Cedar, Rumriech and Badger[13] comment on it reaching its height about two weeks after the onset of the disease. Quoting Doolittle,[24] it usually becomes positive in dilution

which is considered diagnostic between the tenth and fourteenth day of the disease and 1/160 usually was considered to be diagnostic, but for a single test a titre of 1/320 was favored. In Johnson's[40] series the Weil-Felix became positive at a minimum at twelve days and a maximum of twenty-one days.

The agglutinins in the serum fall rapidly following convalescence. The time at which they reach a level too low to give an agglutination reaction seems to vary considerably. Bengston[49] states that negative results or low titres which are not significant in humans are found after six to twelve months. According to Dwyer and Atkinson[53] agglutinins have been detected up to two years after recovery from the disease. Some observers have made the statement that agglutinins have been found in the serum several years after the disease.

There are diseases other than the Rickettsial group which may give a positive Weil-Felix reaction. They usually are the infectious febrile diseases. These reactions may be weakly positive or strongly positive at times.[3] Some of the diseases listed as giving positive reactions are typhoid fever, undulant fever and tularemia.[51] The dysenteries also have been listed as giving positive reactions.

In addition to the Weil-Felix agglutination reaction as a diagnostic aid there are a number of other laboratory procedures used in diagnosis of Rickettsial infections. The Rickettsial complement fixation reaction which is specific for the Rickettsial infection, has been of great value in differentiating the different types of Rickettsial infection. Other tests, such as animal inoculation, Neill-Mooser scrotal reaction, culture methods, histologic studies and cross immunity tests are of value in differential diagnosis.

Cerebrospinal Fluid.—Brill,[26] in 1910, performed lumbar puncture on four of the 221 cases studied and found an increase in the lymphocytes. Ernstene and Riseman,[8] in a study of 10 cases, performed lumbar puncture in five and study of the fluid revealed cell counts that ranged from six to forty-seven lymphocytes per cubic millimeter of fluid. Four of the cases had an increase in the total protein. Evans[23] reports the cerebrospinal fluid to be normal with the exception of an occasional increase in pressure. The spinal fluid studies on seven cases in the present series revealed a slight increase in cells and total proteins. Since studies on the cerebrospinal fluid in this disease entity are not extensive enough to be of statistical value, more work would have to be done before any conclusions could be drawn.

Blood.—The peripheral blood in this disease entity does not seem to reveal any findings which could be considered characteristic of the disease. By some observers, the leukocyte counts have been reported within the normal range. By others, the counts have been recorded as falling in one or the other of the following groups: mild leukopenia, normal range or moderate leukocytosis. The blood showed no leukocytosis in the 17 cases reported by Brill[5] in 1898. Brill,[26] in 1910, in the 221 cases studied, found the leukocyte count to average between 9,000 and 11,000 per cubic millimeter. McNeil,[32] in his observations, found there was a tendency toward leukocytosis rather than leukopenia, with counts ranging from 10,000 to 20,000 per cubic millimeter. Maxcy[37] reports the leukocyte count in a group of 43 patients to range from 3,000 to 15,000 per cubic millimeter. Blatteis,[12] from observation of 138 cases, gives the leukocyte count as ranging from 5,000 to 18,000 per cubic millimeter. Piersol[10] reports a leukocytosis of 24,800 per cubic millimeter in a case of endemic typhus. Quoting from the article by Evans,[23] leukopenia is the rule with counts ranging from 3,000 to 6,000 per cubic millimeter. Nothing remarkable can be said concerning the differential counts on the peripheral blood smears or the erythrocytic series. The impression from the literature and from observation of the cases reported in this study is that the blood findings vary with the individual case and the group studies.

COMMENT

The first recognition of this disease entity now known as endemic typhus fever was about fifty years ago. It has been referred to by such synonyms as Brill's disease, New World typhus, murine typhus and flea typhus. It is an acute, infectious, febrile disease, produced by Rickettsia prowazeki var. mooseri. It is primarily a disease of rodents and is transmitted to the human through the agency of arthropod vectors.[54] It has no preference for social status or economic position. The time of its most frequent occurrence is during the warmer months of the year in temperate climates and seems to be related to the period when rat flea production is most prolific. The louse in this disease is conspicuous by its absence and seems to play a very minor role, if any, in the transmision of the disease to the human. The disease seems to be more prevalent in rural sections at present than it was in its earlier history.

The clinical course is variable. It may be sudden or gradual in onset. The first symptoms may be malaise, mild headache, generalized muscular aches and pains, loss of appetite or nausea and vomiting. The headache becomes severe and persistent. Injection of the conjunctivae usually is present. Chilly sensations or definite chills often occur. Fever is of the continuous remitting type. The average duration of the fever is twelve to fifteen days and it usually returns to normal by rapid lysis. There is, as a rule, a morning remission of 1 to 2 degrees Fahrenheit. There is often flushing of the face. The rash is maculo-papular, rarely hemorrhagic, varies considerably in its color scheme, usually appears on abdomen, back and chest and spreads outward. The fourth to eighth day is the average time of its appearance; it never appears in crops; it blanches on pressure but does not disappear on pressure. The skin usually is clear by the time convalescence is established. The rash is absent in some cases and may not be recognized when present in individuals with dark skins. Nervous and mental symptoms may be mild or of a severe nature when present. Respiratory symptoms are nonproductive cough and other symptoms of tracheobronchitis. The cardio-renal-vascular system rarely appears to be involved other than to the extent of the findings associated with any acute infectious febrile disease. The laboratory findings are not remarkable and not diagnostic excepting the positive Weil-Felix reaction which is present in a very high percentage of cases. This reaction establishes the presence of agglutinins for the Rickettsial group but is not diagnostic for any one of the Rickettsial diseases. In this series, the Weil-Felix reaction was positive in 100 per cent of the cases. A titre of 1/160 was considered diagnostic if the clinical picture of endemic typhus was present. The symptoms disappear very rapidly when the temperature returns to normal, and convalescence usually is rapid and uneventful. The most common complications are bronchial pneumonia and thrombosis. The mortality rate is low. It has been given as less than 1 per cent by some observers.

There is no specific therapy for this Rickettsial infection. The use of plasma as a supportive measure in Rickettsial infections has been advocated by Harrell and Associates.[55] Smith[56] has used para-aminobenzoic acid in the treatment of endemic typhus with results which are encouraging. The treatment of choice is prophylactic, the success of which depends chiefly on the elimination of the rodent reservoir. Once the infection has developed, the therapy is supportive and symptomatic. Since the complications are few in this disease they do not present a major problem and should be cared for on the basis of indication as they present themselves.

SUMMARY

A presentation of twenty-four cases of endemic typhus fever as observed on the wards of a general hospital over a six month period is made. It includes case reports, illustrations, clinical and laboratory observations and a review of the literature.

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CAUSES OF FATIGUE

Fatigue is chemical in character and is caused by activity which involves expenditure of energy. It may result from depletion or nonavailability of energy stores or from the accumulation of end products of metabolism. There may also occur a breakdown of homeostasis or a serious alteration of the psysicochemical state. Reduction or depletion of available energy is the most valid explanation.

The administration of nutritive elements, such as sugar, delays the onset of fatigue. Low blood sugar levels were found in exhausted marathon runners. Reduction of the oxygen supply is a highly efficient means of hastening the onset of fatigue. Lactic acid, carbon dioxide and acid phosphate were the chief waste products accumulated during fatigue. Excessive loss of chlorides and weakening of the synthetic capacity of muscles are additional causes of fatigue.—Earl C. Elkins, M. D., and Khalil G. Wakim, M. D., in Archives of Physical Medicine.

EMANCIPATION FROM FEAR AND ANXIETY

It is true that, as an old Chinese proverb says, women are never privileged to prevent disaster but are always called on to help in the reconstruction.

No reconstructed society can ever be built on unreconstructed individuals and, therefore, I wish to stress the importance of the attempt to spread good mental hygiene throughout the land from the cradle through middle life. More and more we realize the insecurity of the individual, based on a feeling, true or imaginary, of being alone and helpless in a hostile world.

I consider it one of our highest functions, not merely as women, but as good physicians of international caliber to help in the development toward maturity of each and every individual who comes within the scope of our influence.

The emancipation of the individual spirit from fear and anxiety is one of the moral imperatives of our enlightened profession and its accomplishment will surely be a rewarding experience to each and every one of us.—Dorothy Wells Atkinson, M. D., in J. American Medical Women's Association.

SOME PROBLEMS IN THE ECONOMICS OF MEDICAL CARE*

By H. H. SHOULDERS, M. D.,
President, American Medical Association,
Nashville, Tennessee

First, I wish to express my appreciation of the opportunity to meet with the West Virginia State Medical Association, and I want to say also that I count it a privilege to have the opportunity of meeting your great United States Senator, Chapman Revercomb.

I should like to make brief reference to a statement made by your president with reference to the landslide of last November. I should like to assure you that the results were satisfactory in so far as I am concerned, but I want to admonish you to this extent: that that did not accomplish the correction of any economic problem. It did do this great thing: It gave assurance of the preservation of a freedom in which the people can accomplish the solution of their own economic problems.

I believe it would be agreeable to give you in brief some of the philosophy of medicine which I think affords an explanation of the attitude of physicians on many problems that arise. First, the philosophy of medicine is a philosophy of progress; a progress that is restrained only by prudence and caution. Some people say that we are not progressive. I say that we are the most progressive group of people in existence, but we progress with prudence and caution. Second, it is a philosophy of humanitarianism; we have always and still do place service to humanity above any other consideration whatsoever. Third, it's a philosophy of freedom. We recognize the importance of the dignity of the individual and we further recognize that it is in an atmosphere of freedom that the individual accomplishes his greatest purposes in happiness and achievement. Finally, I should like to point out the fact that medicine is for human welfare. It began as a welfare organization and the whole purpose of its existence is for welfare. And I should like to point out this truth very briefly, that in this country the word "welfare" has come to have a very narrow meaning. It seems to mean to some people the administration of some sort of benefits by a government agency. I should say that freedom in itself was accomplished as a result of a welfare movement, and that in so far as I am concerned, there is no genuine welfare without it. I think that it is very necessary that we keep in our minds some of the elements of welfare. Every statute that has been enacted ends with the clause "the public welfare requiring it." In my opinion it has been used fraudulently several times.

I am to speak to you tonight on some problems in the field of medical economics. I think a great deal of confusion has arisen because of the loose definition of the word "economics." I propose this definition: Economics is a study of the means by which people obtain the goods and services they need and/or desire. If you will read the definitions that appear in encyclopedias and in books on economics, you will read long, involved interpretations that tend to create confusion. I have submitted my definition to a number of economists that I think are worthy of trust and they have approved it, so I hope that you too will endorse and remember it.

It is insisted by some that we doctors are poor economists. Well, I insist that we are not. I think they have confused the word "economics" with the word "finance." As a matter of fact, finance is nothing more or less than a tool of economics. When two boys in the country exchange a pig for a pup, that's economics. When nations barter with each other, again that's economics, but it's not finance, and when the Russians took out of Korea some of their equipment, that was economics, but God knows it wasn't finance.

I think we doctors probably are poor investors and we may be suckers when it comes to finance, but we are not poor economists, because we know its limitations. As a matter of fact, it was a doctor who laid the groundwork for the entire subject of economics. He was Doctor Quesney of France. He headed a school of philosophy known as physiocrats, and this is the origin of it. He was a physiologist and a great physician and he observed that in the economy of the body there are certain forces which work for the good of the individual, that tend to get him well of illness. They work to his good if they are not hindered by anybody. In other words, out of that philosophy grew this expression: "I dressed a wound today, but God healed it." Doctor Quesney observed that this same philosophy applies in the organism we call human society. A Mr. Du Pont de Nemours was associated with Doctor Quesney in this philosophy. Thomas Jefferson became a friend of Mr. Du Pont, and it was later on that Thomas Jefferson wrote that philosophy of freedom in the Declaration of Independence in these words: "We hold these truths to be self-evident, that all men are . . . endowed by their Creator

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with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness," and for the preservation of these rights governments are instituted among men.

We doctors, I insist, may be poor financiers. We are not poor economists.

Next, I should like to draw attention to this fact, that economics often is referred to as a science. Well now, we will not debate the question; admit that it is, maybe. But we will say this: if economics is a science, then the relationship between an economist and the science of economics is essentially the same as the relationship of a physiologist to the science of physiology. A physiologist studies to learn the laws of life and the factors which influence life, favorably or unfavorably, and his discoveries are of great benefit. Likewise, a real economist must seek to find the laws of economics and the factors which influence the course of economic events, favorably or unfavorably. The physiologist does not assume that he can make a physiologic law, although if he did assume so, he would do no harm because he would be either ignored or confined in a mental institution. Not so with pseudoeconomists. The very moment they assume that they can make an economic law, they are called to Washington and given the headlines.

So much for the relationship between an economist and the science of economics. And I am not fooling when I say that that sort of economic thinking has been going on in this country for quite a few years.

We will pass to the question of medical economics. Now, medical economics is a study of the means by which the people obtain the medical services they need and or desire. Why do we put in that "need and or desire"? Well, it's for this reason: In my opinion a Christian Scientist with a gangrenous appendix needs an operation, but he doesn't think so. I don't quarrel with him and I don't want him to quarrel with me. Desire enters into the question of economics as much as need. In many instances the matter of desire is more dominant than need. Yet many people confine their discussions to one phase of it, namely, need. For example, that old catch phrase: "From each according to his abilities, to each according to his needs" ignores desire altogether. Who is going to determine ability on the one hand and who is going to determine the need on the other? That brings about the conclusion Senator Revercomb referred to, namely, somebody dominates both. The individual is not free to determine his ability or his real desires, nor is he free to determine his needs. An authority is set up to determine these for him.

Now, there is a medical economic problem. And that problem may be stated briefly in these words: There is a fair number of people who have difficulty financing high quality medical care at the present time. How has this problem come about? The answer is simple. It's a result of progress; progress not only in medicine, but progress in invention. Progress that has changed the whole pattern of American life. For example, when appendicitis was treated very largely by the administration of opium pills and the application of poultices to the abdomen, there was no great cost to that form of treatment, but the mortality was high. The results were bad. But when we learned something of the nature of the disease and perfected a surgical treatment for it, the mortality rate went down, but the cost of treatment went up. So I say medical care at its present cost is a far greater bargain than it was a half century ago. Likewise, when we did not understand the nature of diabetes, we treated the disease by diet and administration of codeine and the diabetic lingered a few months or years in discomfort. Today we understand something of the nature of the disease — it has been on your program today — and the diabetic is given almost a normal life expectancy in comfort and usefulness. Its treatment costs more, but the results are better. That's the thing lost sight of. I say that medical care today is a greater bargain than it ever has been.

However, the fact remains that some groups of individuals have difficulty financing the cost of medical care. We doctors have adjusted ourselves and our practices to that economic situation. How? By our humanitarian philosophy we render service to the indigent without charge, and to those able to pay, we render service on the basis of their ability to pay. So our humanitarian philosophy is applied to the benefit of mankind, but I grant you that that philosophy does not appeal to the modern economist. It doesn't put red ink on one side and black ink on the other, and so on. It doesn't appeal to his sense of economics. Well, that's all right. We have worked and it has worked in the saving of lives; it has worked in reducing mortality of the people of this country to the lowest of any like number of people anywhere in the world. It has delivered to the people of this country, in spite of these difficulties, the highest type and the most widely distributed medical care received by any people anywhere on earth today.

Now, then, the problem arises from this fact: that the person in moderate circumstances in the lower income bracket does have difficulty financing the cost of the high quality care or attention, and it is not infrequent that we doctors encounter an individual who has been perfectly healthy for years — he and his family — and suddenly he is stricken with a serious ailment that requires hospitalization, probably surgical operation, nursing care, and so on, and then we wake up to find that his entire income for the next several months has been pledged in advance for payments on radios, automobiles, and other luxuries which do not come in the category of necessities. So this problem is in part due to the economic atmosphere in which medical economics must work.

To be a bit more definite concerning the number of people involved, I would like to say this: about 24 per cent of the people have an income that is below one thousand dollars per year and they end the year with a deficit. Obviously, they cannot finance their own medical care when a major illness arises. Those people occupy our charity wards, and I think that's the group of people aimed at under one of the bills that Senator Revercomb made reference to. I think it was the idea of Senator Taft to aid in the financing of the care of people in that group, without interfering with the freedom of those people or the freedom of the medical profession.

Of the next group I should like to refer to, about 42 per cent fall in the income group between one thousand and twenty-five hundred dollars per year. Their savings at the end of the year range from 5 per cent of their earnings to around 16 per cent. They are the ones who have difficulty. They support themselves; they are free, independent American citizens and would like to support themselves; I am convinced of that. Yet, when a major illness arises, they have difficulty in financing care.

How can this problem be solved? Let's go back and take a leaf from the record of the business man. I should say that the producers of automobiles, radios, washing machines, et cetera, could never have sold so many if they had not adopted the partial-payment plan. As I said a moment ago, it isn't infrequent at all to see an individual in that income group who has his income pledged for months in advance. That slogan, "Enjoy while you pay for it" worked. I think that we can also adopt that same idea by applying the principle of insurance to the financing of medical care. What do I mean by the "principle of insurance"? It is a financial mechanism by which an individual may transfer financial risks to a group by the payment of a premium. Are all risks insurable? No. Plenty of risks are not. Nobody can insure against loss in the stock market. Nobody can insure against loss in gambling. There are plenty of risks you take that are not insurable at all. For a risk to be insurable, it must conform to about six requirements, and I shall not go into all of them; I will name three. First, the risk must be predictable. That's number one. Second, the laws of mathematical probability must apply. And third, the issuance of the contract must not increase the risk to an unpredictable extent. Do you begin to get the fundamental idea back of all that? In applying that plan of insurance to the financing of medical care, it is applicable to all the phases of care which are predictable, and these are measurable; in such instances the issuance of the contract would not increase the risk to an unpredictable extent. Let us observe its application for just a moment. I had some farm property insured in a mutual insurance company in my home county down in Tennessee some years ago. It was cheaper and they said, "Well, we are all neighbors; we just carry it along." The premium was low; the coverage was high. Well, a depression hit. In a little while the value of the property was not equal to the principal of the policy, and a number of fires broke out. They had a heavy fire loss, and then I received notice of an assessment, and a fellow came to see me and I said to him, "Now, Bill, tell me, what happened? This company has been operated for a number of years by these fellows who are perfectly honest, I am sure, and it has been operated successfully." "Well," he says, "I will tell you. Here is what happened." He says, "We had those hen houses and barns all insured for a little more than they were worth. Then you had a little depression and you needed money a little worse than you did the hen house or barn," and he says, "he did not have to set the fire; I don't think that. All he had to do was just be *careless with fire*." And that's just what had happened.

Now when you begin to take risks with these people, they get *reckless with the truth*. As a matter of fact, disability insurance companies in this country had a very hard time getting through the depression, because in that period of high unemployment, there was also a high claim period, and many of the companies went to the wall, so they had a bad experience.

I think that we have gone through a period of experimentation with this insurance principle which will justify certain very definite conclu-

sions, and number one conclusion is this: that it is applicable to all the major forms of risks; and, second, that the complete application of that principle will solve all the major economic problems involved in the financing of medical care. The technic of applying this principle of insurance to the financing of medical care is accomplished by the use of the voluntary pre-payment medical service plan. Obviously, it cannot be applied to every minor ill. Why? Well, go back to this definition of economics for a moment. "Economics is a study of the means by which the people obtain all the goods and services they need and/or desire." I commented on the fact that needs may not be as expensive as desires. The truth is, desires can be much more expensive than needs. I quote some figures to illustrate: In the year 1942, the people of this country spent for recreation, $3,200,000,000; for tobacco and smokers' supplies, $2,200,000,000; for personal service — now I will have to define that for you: that's beauticians, cosmetics, perfumes, barber services, et cetera — $1,370,000,000; alcoholic drinks for the year 1945, $7,800,000,000; for medical care — now that embraces hospital care, medicines, physicians' services, et cetera — in the year 1942, $3,400,000,000. When we break it down for the year 1944, physicians received only $1,094,000,000. Cosmeticians, beauticians, and cosmetics producers beat us out by several million. That illustrates this point: people do not confine their expenditures to needs; desires often dominate their expenditures, and that point is too often lost sight of in economic considerations by some people.

I say that we cannot make this insurance plan applicable to all the possible demands that people might make for service in the middle of the night for minor ailments. For example, if some old lady's corn begins to hurt in the middle of the night, she says, "Well, now, the service is paid for and therefore I am going to demand that my physician come over and relieve my corn." That's an example of the demand that could be made and it's an example of what has actually happened when the individual is relieved of all financial responsibility in connection with the medical care he might demand.

I should like to make one more application of that principle and apply it to another form of need; another necessity and not a luxury. Let us take clothing. The needs of a group of people, such as an army, for clothing can be determined well in advance; it can be predicted; its cost can be determined, provided you know the number of persons you are going to supply — two basic facts. And furthermore, they are under the complete domination of the commanding officer. They would not get all they might desire, but would get what somebody else determined to be their needs. Let us turn that over just a minute, and let us apply that principle to clothing, and say, here is a government agency that will supply you with all the clothes you need and desire by the payment of a certain sum in taxes. What would happen to the wardrobe of this country? Don't you know that most women — I won't say all of them — would want a mink coat with a little different cut from that of every other woman? Freedom? Yes. The freedom of choice and someone else pay for it? No. You can't have your cake and eat it, too. It doesn't work out in the field of economics.

I would like to make reference to two or three other propositions in connection with this business of economics of medical care but as my time is running out, I shall make but a final brief statement.

I think we can say that there are two propositions under consideration by the American people. One proposition is about as follows: Give to an agency of the government the power to tax, the power to spend, the power to regulate and direct, and the power to determine needs in an arbitrary way, and that agency will solve all the problems connected with medical economics. As a matter of fact, that is based upon a totalitarian philosophy and it can lead to nothing but tyranny. The proposition of American medicine is that we make a judicious application of the principle of insurance to the financing of medical care and extend it just as rapidly as experience will justify, and by so doing, preserve the freedom of the patient. We will preserve the freedom of the doctor. We will preserve the greatest system of medical care on earth today. And, finally, in my opinion, we will preserve our great, free, American institutions, and I maintain that such objectives are worthy of all of the best that is in all of us.

ALCOHOLICS CAN GET WELL

Sixty to seventy-five per cent of all alcoholics are not looking for a way to stay well but are really trying to prove to themselves that they can drink without getting drunk. They are trying to prove that they are not alcoholics.

All alcoholics (excepting those cases caused by mental diseases) can get well and stay well once they accept the fact that under all circumstances they cannot take a drink the rest of their lives.

Sobering-up methods or very short stays in hospitals or sanitariums produce very little permanent benefit except in a negligible percentage of cases.—Roy Carl Young, M. D., in J. Arkansas Med. Soc.

SINGLE MASSIVE DOSES OF PENICILLIN IN SURGICAL INFECTIONS

By BENJ. I. GOLDEN, M. D.*
Elkins, West Virginia.

In the use of penicillin, the following points deserve consideration: (1) penicillin kills bacteria on direct contact, (2) large doses are relatively nontoxic, and (3) bacteria may become penicillin fast very rapidly. This preliminary report presents our technic for using single massive doses when possible.

TECHNIC

General.—Penicillin is not compatible with local anesthesia which contains adrenalin. We find that local anesthesia mixed with penicillin does not sufficiently reduce pain to be of value in infiltration procedures and we have adopted general anesthesia as a routine. This has the additional value of permitting better debridement. Topical application will not produce the results obtained by infiltration.

Dosage.—The dosage is more or less arbitrary. By experience, one soon visualizes the quantity and dilution necessary to combat the invading organism. For intra-abdominal infection of the mixed type due to a perforated appendix and for gangrenous gallbladder or infected fallopian tubes, provided the peritoneal involvement is not too great, 500,000 units of penicillin in 20 cc. of distilled water has been found to be sufficient. For intestinal perforation of several hours' duration, for cesarean section when there has been previous intra-uterine manipulation, and for colon resection and similar types of cases, we use one million units in 20 cc. of water.

In treating traumatic wounds, we ordinarily dilute 500,000 units of penicillin in sufficient sterile water to infiltrate the area in such a manner that, were we using a local anesthetic by the infiltration method, anesthesia would be accomplished. In some instances this dilution may require 30 to 40 cc. of water; in others, only 5 cc.

Traumatic or Infected Wounds.—In traumatic wounds, with the patient anesthetized, routine debridement and plastic surgery are completed. When the surgery has been done, the wound is infiltrated with penicillin. This infiltration is done in the same manner as that for local anesthesia. All areas of the surrounding tissue, both proximal and distal, are infiltrated. One need not fear the consequences of entrance of the needle into an artery or vein because penicillin in the blood stream does no harm.

Carbuncles.—With the patient under a general anesthetic, all of the indurated and adjacent tissues are infiltrated thoroughly with 500,000 units of penicillin in 30 to 100 cc. of water.

The needle is inserted through the indurated tissue and radial injections are made out into healthy tissue on all sides and into the base.

If pointing is present, a stellate incision is made. If there is only induration or if there is sufficient sloughing for adequate draining, no incision is made.

Pain usually has subsided in a few hours and healing becomes complete in a few days.

Abdominal Surgery.—At the end of the surgical procedure, the peritoneum is closed in the routine manner. As the angle of final closure is reached, a small catheter is passed deep into the abdominal cavity. The suture, held taut proximally, is continued around the catheter to include the angle. A syringe containing the penicillin in proper dilution is attached to the catheter, and the contents emptied into the abdominal cavity. As the catheter is withdrawn, the suture is pulled tight, thereby preventing any loss of fluid. Closure is then finished. We never drain these cases regardless of the amount of peritonitis. This does not mean that we change technic and do not drain in accepted surgical procedures such as cholecystectomy or common duct surgery.

Amputations.—Amputation is completed, vessel ligation accomplished and muscle plastic done. Before skin closure, the whole area is infiltrated under direct visual application.

Thoracic Injuries.—In our case of massive through and through thoracic cage injury, the lung was packed off with penicillin soaked packs; twenty-four hours later we closed the anterior wound, and made partial closure of the posterior wound with implantation of a catheter into the pleural cavity. Continuous penicillin irrigations (500,000 units in 250 cc. of water) were then carried out. Results were excellent.

REACTIONS

We are of the opinion that, with one exception, there is little or no adverse biochemical or physiologic reaction to massive doses of penicillin. It has been noted on several occasions that there was a temporary dulling of mental activity. One patient, especially, gave the impression of being a moron for seventy-two hours. However, this reaction never has given us serious concern.

*From the Department of Surgery, Golden Clinic, Elkins, West Virginia.

CASE REPORTS

Case 1.–

Male, age 11. Acute perforated appendicitis with large localized abscess; B. coli contaminated. History of violent vomiting for almost sixty hours prior to admission. On admission, marked dehydration, rigid abdomen. Five hundred cc. of glucose and saline infusion with 100,000 units of penicillin were given intramuscularly on admission. One hour later, appendectomy was performed followed by instillation of 400,000 units of penicillin into abdomen. There was a moderately stormy convalescence in this case.

Case 2.–

Male, age 53. Diagnosis: Acute suppurative appendicitis with localized peritonitis. Appendix retrocecal at the hilus of the kidney. Duration three days. Because of the location of the appendix, considerable trauma was done to the perirenal fat and adjacent muscle tissue during surgery. Five hundred thousand units of penicillin were instilled intra-abdominally. Primary closure. Uneventful recovery.

Cases 3 & 4.–

(a) Female, age 29. (b) Female, age 40. Both primipara, full term. Both in labor for several hours with intra-uterine application of forceps. Classical cesareans; instillation of 500,000 units penicillin intra-abdominally after uterine closure. No postoperative fever. Patients out of bed in twenty-four hours. Complete uneventful recovery. Both babies alive.

Case 5.–

Male, age 35. Kicked by a horse in left side of the abdomen about one inch cephalad and lateral to the umbilicus. The injury occurred about one to one and one-half hours prior to admission. On admission, patient showed no evidence of abdominal visceral injury. Flat abdominal roentgenogram was negative. Four hours after admission patient developed an abdominal crisis with severe shock. Immediate surgery. Findings: A 2 cm. laceration of the terminal portion of the jejunum with no mobilization of omentum or plastic adhesion. Procedure: Primary closure of the laceration; instillation of 500,000 units of penicillin; primary closure. Postoperative x-ray study shows normally functioning intestine. This was one of our early cases. For the first thirty-six hours the patient did not seem to react. We interpreted this partially vegetative condition to be due to an overwhelming toxemia and gave him 500,000 units of penicillin in 100,000 unit doses every three hours. We are now of the opinion that this was a mental reaction caused by penicillin and was not due to toxemia. The patient received food immediately after operation. There was no evidence of ileus. In retrospect, we believe the additional penicillin was not only valueless, but helped prolong the mental condition.

Case 6.–

Male, age 38. Diagnosis: Stab wound of the lower left quadrant of the abdomen with protrusion of omentum of about six hours' duration. Surgery consisted of enlarging the wound, excision of protruding omentum, exploration, instillation of 500,000 units of penicillin, and primary closure. There was primary healing with uneventful recovery.

Case 7.–

Male, age 53. Diagnosis: Perforated gastric ulcer, lesser curvature, ½ inch proximal to pylorus. Procedure: Complete excision of ulcer, 500,000 units penicillin, primary closure of abdomen. Uneventful recovery. Postoperative x-ray shows good functioning of pylorus and normal emptying time.

Case 8.–

Male, age 45. Diagnosis: Crushed foot with moist gangrene. Marked cellulitis to mid-third of leg. Temperature at time of amputation 104 F. Normally the indicated site for amputation in this case was above the knee. With the patient's consent, amputation was done at the junction of the middle and distal third of the tibia. Following amputation and before skin closure, a 4 inch needle was used to infiltrate the muscle and subcutaneous fat with 1,000,000 units of penicillin in 50 cc. of water. Primary closure. Primary healing. Now, eight months later, a painless, soft scar exists.

RESULTS

In no case, with the exception of the thoracic injury, has it been necessary to use subsequent doses of penicillin.

COMMENTS

This preliminary report of our experience with massive primary doses of penicillin is made in the hope of arousing interest in the technic and encouraging massive primary dosage. We cannot claim originality in suggesting massive doses or contact application. From our observations, we conclude: (1) The massive dose by direct contact is of greater value than the massive dose by divided systemic administration. (2) Many organisms which at present are considered insensitive to the drug either are destroyed or rendered nonpathogenic by penicillin when used in the manner described. Furthermore, it would appear that penicillin, when used intra-abdominally, has the power to destroy or render impotent colon bacilli.

PROPOSED FEDERAL LEGISLATION AFFECTING THE PRACTICE OF MEDICINE*

By CHAPMAN REVERCOMB,
U. S. Senator from West Virginia,
Charleston, W. Va.

I am honored that I may come before you in your state convention to discuss with you for a brief time this evening legislation that has already been passed, some that is pending in the Eightieth Session of your Congress, and some that has been discussed. I am sure that this subject is of interest to you, the leaders in the great field and the great service of medicine.

Government, as you know, has already reached into your work, as it has into most every endeavor of mankind, with its regulations, its provisions for boards and for qualifications for entering the field of your practice. It now becomes a question of just how far the authorized government shall go in affecting your activities and your practice. That great underlying problem affects every man in his work throughout this country. There has grown up here a definite clash between what is known as strict control of the individual in his effort and the freedom of man to think and act within the basic realm of self-imposed, orderly conduct, and that conflict is a living thing that confronts you and me each day. Many names have been used for it, many of them borrowed from abroad. We hear of Nazism, Communism, Fascism, dictatorship, totalitarianism. All, in substance and fact, mean the same thing: the strict control of the individual by those in political authority.

If there is one phase of man's work which should be protected against domination and dictation, it is the field of medicine, including every branch of the science that the general term "medicine" may cover. It is equally necessary that man's freedom of mind and thought shall remain unshackled and unobstructed in all branches of science if we are to have true scientific advancement. Now, I do not mean that your government should not aid in work, so long as that can be done without attempting to strictly regulate and dictate the thought of those who devote themselves to such work. If freedom means anything, it must apply to man's freedom of mind and thought, to discovery and the application of that discovery to science.

THE LINE MUST BE DRAWN

We long have recognized the duty of the people, through their government, to provide adequate and free medical service for those who cannot pay, and for the aged, but that provision does not direct how the treatment shall be given or who shall do the treating, and there, it seems, is one of the points on which to draw a dividing line. Financial and other assistance well may be given by the federal government and the state governments towards establishment and construction of health centers and hospitals, for they contribute to greater health; or towards the maintenance of the medical and rehabilitation facilities within the limit of reasonable expenditures. Such a program will tend to bring about greater equality of protection for the nation as a whole, but the method of treatment and the regulation of those who render it *must be left in the hands of those who perform that service.*

The American people understand and believe in our present system of personalized medical care. The relationship of doctor and patient is of such a highly personal nature, that it ought not to be disturbed and it is best for the recipient that it not be disturbed. I talk tonight not only from the doctor's viewpoint, but from the layman's viewpoint—the man who receives the care and attention that you give. The viewpoint of the public as shown in a recent poll indicates that only 8 per cent of the people of this country are of the opinion that a compulsory medical plan would provide the solution to the problem of the easy payment for medical care. This is a healthy situation, because it means that the people, in fact, intend to remain free of government-regulated lives. Any compulsory medical plan administered by the government would result in the introduction of political influence and patronage in the treatment of the sick.

WORD PICTURE OF COMMUNISM

Getting back to the basic idea that draws the line between control of men in any phase of their lives and individual freedom as it actually exists for us if we will keep it, we hear talk about Fascism, Communism, and government control. Those words are often over-used and we tire of them. Some people ask, "What is Communism?" I am going to give you an illustration of it, because it has come to me in a concrete form. And I can illustrate it best by quoting from the lecture of a Russian woman married to an American citizen, living in this country – a lecture that was delivered before a high school group in Washington, D. C., within the last ten days. Besides revealing concretely just what is done under that philosophy, here, in a practical way, is revealed what is really meant. It reveals to us also that the followers of that philosophy are at work in

*Presented before the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 13, 1947.

this country. I quote the exact language from the lecture: "Education is free in Russia. If you want to be a teacher, you go and study, get the profession of a teacher. If you want to be an engineer, doctor, philosopher, professor, you are just able to do it because it is free. You don't need to pay money. The government supports the students and gives the scholarships or stipends for everybody who possesses or passes examinations. After two years' study in Moscow, I took middle education. That would be high school here. Then I entered the Moscow Philological Institute of Foreign Languages. I don't know why, but I chose English. While I was a student during this four years, I went twice to a rest home. Each Russian person is given medical care free. If you are sick, you are given health aids by the hospitals and doctors and you do not need to pay for them. Our trade union of students – they were students of this whole country – and each person had the opportunity to go once a year to rest in the home at the shore to relax and breathe the fresh air and take gymnastics. I like America very much and I am fond of Russia, too. I think these two great countries are really great, but life in both is entirely different. Always if you want to study Russia, you have to think about the Russia of today, not Russia which was a century ago. In Russia of today there are no landlords or business men living off rents or off profits. The whole land is public property. The whole country is publicly owned and controlled. As a result, unemployment is completely wiped out. In Russia right now people especially do not worry about today or tomorrow. They never think: 'All of a sudden I lose a job.' That feeling doesn't exist among Russian people. Most people blame the Russian government for not believing in God. That is not true. The Russian people are religious and when they pray, they really mean it. I never appreciated life in Russia until I lived here, where you, here, have to work hard in order to live; use all your courage not to die."

That's the end of the quotation. Now, that is the picture that is painted by a Russian woman devoted to the idea of state control. That is a striking picture of factual Communism or the controlled economy and life in action, painted by one who lived it, to a group of American students. It is the alluring picture that is held out to the people of this country. It has an appeal because it is undeniable that many people want as much as they can get and get free. That philosophy has grown very widely in this country. Its apostles are teaching it every day.

THE OTHER SIDE OF THE PICTURE

But there are many things which that woman didn't tell those school children. She didn't tell them that in Russia a man may not own real estate or his home. She didn't tell them that he was forbidden a trial by jury; that he cannot choose his own job; that he cannot absent himself from his work; that he cannot strike or picket; that he cannot employ labor; that he cannot travel without the permit of the government; that he cannot own jewelry; that there is a provision that he cannot ring a church bell; that he cannot be a friend with a foreigner, that he is forbidden freedom of speech, freedom of assembly, freedom of religion, and the freedom of his soul. And I ask you tonight, are the American people in any phase of life, whether it be in medicine, in law, at the work bench, or upon the farm willing to give up those liberties that America has in order to live a controlled life off the state? I am somewhat comforted by the fact that those high school students walked out of the school in protest of that speech.

I pray to high heaven that it will never come to this beloved country of ours. The price is too great to pay, but yet that appeal is going out and that philosophy is worming its way into the different activities of man. Your profession is threatened with it. Once people slip into the controlled state, they are the absolute victims of their government which may take from them their lives, their sustenance, and destroy every vestige of freedom in political thought, in activity, in every endeavor. It is rule without the voice of the man who is ruled. It is complete domination of the citizen. It is the offer of a glittering gift that will lead into a lethal chamber that destroys freedom and life for evermore.

Not only is such a course disastrous to the happiness of a people, but it is destructive of what those people may attain. They become like herded cattle who need not (and many of them cannot) think for themselves.

Sometime ago I was approached by a man who asked me this question in dead earnestness. I have children, and he said, "Wouldn't you like to have it so that your government would assure your child a living throughout his life?" I said, "No. I want my government to assure my child that he will be left alone to make a living throughout his life."

GOVERNMENT AID FOR CANCER

The Senate has just passed a bill appropriating twelve million dollars for research in cancer for this year. Research in this field has been going

on with the aid of the government for some years. Last year four and a half millions were appropriated. A great impetus apparently has been given those who work in this field by the discoveries in atomic energy, to use the most common phrase given to that work. The startling and spectacular developments at the close of the war with radioactive by-products gave new life to the strong trend toward a mass attack on cancer. These scientists and the men of medicine have combined to concentrate on this problem. Unlike the atomic bomb where basic research had been completed years before, the secret of growth in cancer research is yet to be found. To this end, the American Cancer Society contracted with the National Academy of Scientists, who, under their operating agency, the National Research Council, set up a committee on growth; an unusual term, but that's the term that was given to it. The American Cancer Society's scientific policy and procedure are under direction of that committee. The Public Health Service, through the National Cancer Institute, is making an equally strenuous effort to concentrate government resources and facilities on the research grant in aid, clinical treatment and training program. The Veteran's Bureau and the Army and Navy also are sponsoring research in this field. It is essential that the national supreme effort in cancer have guidance of the most competent men to assure success. To this end, legislation is being discussed to establish further government-financed cancer research to be guided by the outstanding men of your profession and some of the authorities in the other fields of science. So, this year that enormous amount has been appropriated by your Congress because your Congress, in its committees, has been assured that work can be done under these foundations and that government aid is needed in combatting this terrible affliction to mankind.

WHAT'S IN A NAME!

Basically, the agitation for extreme public health legislation which has flooded the country and found its sponsors in the halls of Congress is largely part of a plan of those who want to make this country a regimented state. It encompasses the concept of Marxian economy where individual enterprise must be subordinate to bureaucratic control in the interest of community survival. It is essentially a philosophy of division and control, placing the satisfaction of physical wants above every other human aspiration. It remands the citizens of a republic to the status of workers in a hive of bees.

During the past several sessions of Congress, bills have been introduced which had for their prime purpose the so-called socialization of the practice of medicine. The first one that I recall was introduced in the Seventy-Eighth Congress and the proponents of these bills have urged their enactment upon the ground that the health problem of the United States is acute and requires a drastic overhauling of our public health facilities.

Now, remember this: There is a great appeal when anyone goes out and starts talking about the improvement of the health of the people of this country. One of the greatest tasks that any man in your legislative halls may have to perform is to overcome, first, the name of a bill and, secondly, its declared purpose, and he must read what is provided therein and what naturally would flow from it.

I remember so well when the bill was brought up about the soldier's vote. That was a wonderful title to give it, so that the boys in the Army and the boys in the Navy and the Marine and Air Corps might vote away from home. I was on that committee. I studied that bill. I saw in that bill the provision that those ballots were to be printed and sent out in bales into the fields where the soldiers were, and that a sergeant, a corporal, a second lieutenant was to hold an election and the boys were to vote. Wouldn't you have had a fine freedom of vote under those circumstances? No, we wouldn't let that particular bill pass, and the people then thought some of us wrong just because we wouldn't support the so-called soldiers' vote bill. Well, there isn't any soldier that knows more about control of the soldier than I do. I lived with them for a year and I lived in the ranks, and I know how they lived and how they worked, and how they were controlled. That is why I wouldn't support it. And out of it we got the real bill that let the man have a private, secret vote of his own. And the service man was given the same right of free vote that the civilian had under the bill that was eventually passed.

In the Seventy-Ninth Congress of last year, we had the famous Senate Bill 1606. It was never brought up. Its sponsors didn't bring it up, we judge, because they were too near an election. But that bill probably will be introduced again. That is the bill which has the five features to it. The most outstanding of them which needs going into thoroughly is that of public compulsory health insurance. That is an appealing thing. If I could take out insurance to assure me protection against the cost of medical care, that is appealing, but here is the hidden part of it. It sets up a national security administrator with the powers of a dictator over the medical profession, over the nursing profession, and with the powers to lay down the rules as to whom it should apply and who should be encompassed within it. That's

your famous 1606 that has been spoken of as the socialized medicine bill. If that bill were passed, either the doctor would be working for the government, the nurse would be working for the government, or they would have to quit the professions of medicine and nursing. I am told that that bill will be introduced again.

NATIONAL SCIENCE FOUNDATION BILL

There is pending today another bill which is too long to comment upon extensively, known as S. 545. It is, in essence, a contribution of money through loans for the advancement and expansion of public health, of research in all fields, of research in medicine, but it leaves out the so-called compulsory feature of medical attention which is so erroneously headed, "health insurance." That bill has not yet been taken up by a committee. I don't know whether it will be at this term of your Congress, because it is going to require extended hearings. My advice is to be on the lookout for it. It conforms largely to the ideas advanced by Dr. George Barr, President of the New York Academy of Medicine. I do not say that Doctor Barr endorses this bill, but I have before me the comments of the New York Academy of Medicine in which the features of this bill might be said by and large to be covered. That is, S. 545, and it is one of the pending measures.

Finally, Ladies and Gentlemen, there is before the Congress a bill which has not yet been introduced, a bill creating the National Science Foundation. That is an outgrowth of an activity during the war when the scientists, under the leadership of Dr. Vannevar Bush, coordinated their work in many fields, and, as I say, out of it grew the creation of that atrocious weapon — the most atrocious weapon mankind has ever discovered — the atomic bomb. It was under that direction. Also in the fields of medicine, work was done. The idea there is to coordinate discoveries, but every man is left free. It's the national science research bill. Four of us are sponsoring that bill and I went into it primarily to see that it didn't place control over the individual, whether he be a medical doctor, a chemist, or whatever field of science he may labor within; but that he be left free.

We had a bill bearing almost the same title as this bill introduced last year, which passed the Senate, but not the House, I am thankful to say. That bill last year set up a director, giving him autocratic and complete power over scientific research in this country, and had a provision that virtually destroyed the patent laws of the country. Both of those features are out of this present pending measure that shortly will be introduced. This bill provides that the management of work shall be in the hands of a foundation of twenty-four men picked from the fields of science and that they lay down the rules for the director; not the president, not the Congress, but we have left it, to begin with anyway, in the hands of the scientists of the country, and there is a department of medicine in it. The research shall be carried on through the laboratories of the colleges, through different private institutions, and this foundation will have no institutions of its own, but its purpose will be simply to aid financially those who are endeavoring to advance in these great sciences that man has brought into being.

In closing, I reiterate that what this all comes down to, basically, in your profession and in mine, and in all the works of our fellowmen, is whether or not you and I are going to remain free to carry on in our own way within the limits of fair restraint imposed by ourselves, or whether or not we will surrender to the idea of a controlled people, which means slavery. It is today's problem, and I need but recall the words, "The price of liberty is eternal vigilance."

CONTROL OF STREPTOMYCIN TOXICITY

Streptomycin resembles penicillin in that it has a limited but definite toxicity for man. Fortunately, most of the untoward reactions appear to be transient and not of a serious nature, although in some instances it is necessary to discontinue the use of the drug. Furthermore, sensitization to streptomycin is observed in certain cases receiving interrupted therapy. Hence, all patients who are treated with the drug should be watched carefully for various reactions.

The most serious reaction to streptomycin is a disturbance of the eighth cranial nerve, as manifested by dizziness, tinnitis, vertigo and deafness. This reaction occurs usually after relatively large doses of the drug have been administered over long periods. Approximately 10 per cent of patients receiving streptomycin for more than 14 days will develop manifestations of this neurotic effect. In the patients so affected, there seems to be no objective evidence of improved labyrinthine function, although there does occur some functional compensation for the disability.

When large doses of streptomycin are being used for longer than two weeks, the patient must be followed closely for the occurrence of diminished auditory acuity, tinnitis, or vertigo. If any of these should develop, then the drug is best discontinued, unless streptomycin is the only available life-saving measure.

In contrast to the above, the following untoward reactions have been produced by streptomycin: Arthralgias, myalgias, headaches, nausea and vomiting. Fever and skin rashes likewise have been noted. Seldom do these toxic effects require the withdrawal of streptomycin.—Harrison F. Flippin, M. D., in Delaware State Medical Journal.

The President's Page

Medical care in the rural areas represents a problem that has to be faced, and if possible, solved by the profession. It is these areas where medical care is inadequate or substandard which furnish ammunition for those who advocate government control or possibly subsidization of the medical profession. Many solutions have been suggested, but, as we are all aware, it is rare that a young doctor who has completed medical school and an internship has the desire to take up a rural practice, or, in these days of specialization, even to enter general practice in a city.

Hospitals, particularly those connected with teaching centers, have no trouble in keeping an abundant staff of trained medical personnel available at all times in the form of interns and residents. The financial remuneration received by these men is quite small but is compensated for by the teaching they receive. There is no question that the large number of young doctors seeking residencies after their internships do so because of the requirements of the specialty boards. Unquestionably this produces men who are adequately trained to pursue the more specialized branches of medicine. However, these men have missed something which those of us who have done general practice realize was invaluable in our training, that is, the contact with the patient outside the hospital and in the home.

Many patients' difficulties arise from intolerable conditions in the home and this may easily go unrecognized by the man who has spent all his time in the hospital, never entering the homes of the various classes of patients who may come under his care. Would it not be possible for one or more of the specialty boards to require, or at least give credit for, a year or more spent in general practice either alone or associated with some well established but hard pressed doctor? This would produce a doctor with a knowledge of people that he could obtain in no other way, and would bring medical care to people who need it. Financial remuneration would no doubt equal or exceed that received by interns or residents.

A study of the hospital facilities available to the people of a given state should be based on trading centers or medical service areas rather than on county lines. We are fortunate in West Virginia in that our industrial centers are widespread, taking in practically every section of the creating centers which are large enough to serve the people of the area and provide and support a hospital. The study of the map of West Virginia, which has the location of the hospitals in the state and in the bordering states marked, will show that practically every resident of the state lives within forty miles of a hospital, the majority living much closer. There are a few sparsely settled areas without convenient hospital facilities. The establishment or maintenance of a hospital in these areas would create a financial burden which could not be borne by the local people and would be an unnecessary state expense. It would seem that the maintenance of an ambulance in these areas to provide transportation to and from the nearest hospital would offer a more feasible solution to this problem than the erection of small local hospitals. The American College of Surgeons now discourages hospitals of under fifty bed capacity and few of these isolated communities could support a hospital of this size.

While we are apparently fortunate in the location of the hospitals of the state, we are less fortunate in the distribution of doctors for home service. The burden of Medical Economic Research of the American Medical Association is working on a two year medical service area study designed to provide an accurate measure of the supply of physicians throughout the United States. County medical society secretaries have been asked to mark off on a map the boundaries of the area served by physicians in their counties. The objective of the study is to measure the supply of physicians pro rated over medical service areas wherein the patients reside, rather than over political areas such as counties. The returned maps are said to show many overlapping areas which receive service from physicians of several counties. When this study is complete it will offer a very definite guide to any proposals for the solution of local medical care in the isolated areas of the state.

I would like to suggest that component societies devote a meeting, or a portion of a meeting, to a study of the medical care problem within the areas served by the members of the society. A report of these meetings embodying the problems and any solutions suggested by the members should be forwarded to our executive secretary. In this way an overall picture of the conditions existing in our state could be obtained, and some plan or suggestions for improvement may be formulated.

W. H. H. Clark

President.

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THE PLIGHT OF PRE-MEDICAL STUDENTS

Recently William S. Guthrie, Junior Dean, College of Arts and Sciences of Ohio State University, published an article entitled, "The Plight of the Pre-Professional Students." In it he stated that there were 73,281 applications filed for the freshman classes in 77 medical schools for September, 1947. These schools will be able to accommodate approximately 6,230 students. There are, of course, multiple applications, and it is known that a single student may apply to as many as 30 medical schools or even more. On the other hand, many students apply only to one school.

Student applications are recorded in the office of the Association of American Medical Colleges in Chicago. That office can furnish the name of each applicant, together with the name of the school to which he applied, and this information is available to the committees on admissions. This is not generally known.

Taking cognizance of multiple applications it is perhaps reasonably safe to assume that out of eight students applying one will be chosen by an approved Medical School. This means, of course, that many students will be sorely disappointed to learn that they cannot realize their life's ambition to become a physician. Looking at it casually this seems cruel and unjust. This is, however, only one side of the shield. Let us look at the other.

Many applicants have made poor scholastic records in their premedical work and probably would fail their course in medicine had they been accepted in a medical school. It costs a great deal of money to train medical students, and only those should be chosen who give promise of being able to complete their work satisfactorily. They should be distinctly superior students. This does not mean that it is necessary for the student to have a straight "A" premedical record or for that matter a straight "B" record to obtain entrance into a medical school. There are, in fact, not enough of these outstanding students to fill all the vacancies in the freshman classes. It is often necessary to dip deeper into the pool.

Other factors as well as grades must be considered in the selection of qualified medical students. Because it is so often misunderstood, only one will be mentioned here; namely, the question of physical handicaps. There is probably not a medical school in the country which does not ask on its Application Form whether the applicant suffers from a physical handicap. This must not be interpreted to mean, for example, that minor deficiencies in eye sight or some slight allergic state particularly interest the members of the admissions committees. What is actually meant is a marked physical handicap which would seriously interfere later in his active practice of medicine.

Members of the faculty of medical schools who serve on the committee of admissions occupy an unenviable position. They have a great responsibility, for it is they who determine who should enter upon the study of medicine. They need our encouragement and support. The friendly pressure brought to bear on members of these committees is often remarkable. There are always those well-meaning persons who warmly recommend Mary or John Doe in spite of their indifferent premedical record. The reason given is that they will prove to be the exception. The freshman classes of several medical schools probably could be filled with those "exceptions." Members of the committees of admissions hear only the good arguments for admitting certain weak students; the poor arguments are obviously omitted.

The problem of medical education in this country cannot be exhausted in one editorial or indeed in a series of editorials. It is something, however, which should interest each practicing physician, for he is often questioned by his patients concerning the possibility of their sons or daughters gaining acceptance into an approved school of medicine.

In view of the present situation in the field of medical education it would appear to be sound judgment to advise these people that there is a great deal of competition for places in any medical school; but if their boy or girl has a good scholastic premedical record and other desirable qualities and makes early application, they should have little difficulty in getting accepted in an approved school. This is probably true for the present, but due to the growing population and the increasing number of young people interested in a medical career, what the future holds is hard to forecast. Much will depend upon the development of medical education in this country during the coming years.

OUR NEEDY MENTAL HOSPITALS

An editorial writer in *The Roanoke Times,* incidentally one of the ablest edited newspapers in the entire South, discusses in a recent issue the situation obtaining at the Eastern State Hospital, Williamsburg, Virginia. This institution, now 180 years old and, if our information is correct, the oldest mental hospital in the United States, appears to be having troubles similar to those of our state institutions in West Virginia. Until very recently the Williamsburg hospital carried on with a shortage of about one-third of its normal operating personnel and is still approximately one-fifth undermanned.

This problem is not peculiar to the Virginias by any manner of means. A day or two later *The Times* carried under a North Carolina date line a pitiable story about a severe epileptic in the Old North State who could not be admitted to the state epileptic hospital because of a long waiting list. The current *Christian Century* contains a story about the needs of the mental hospitals in Minnesota. Evidently the problem is widespread throughout the nation. Of course it is more urgent in some states than in others, but generally considered, the lack of funds needed to care properly for mental patients and for mental hygiene programs is by and large a national disgrace. The problem is to secure larger appropriations for these purposes.

We are not familiar with the exact mechanism of the appropriation of funds for eleemosynary institutions in Virginia, for Governor Tuck seems to have the power to allocate funds, but in West Virginia final say as to appropriations is a matter for the legislature to determine. According to information at hand, one mental hospital in West Virginia is now spending an average of about ninety-six cents per patient per day for maintenance and treatment of its intramural psychotic patients. What can be expected under such circumstances?

We have no quarrel with the superintendents of our state institutions. They are doing a magnificent job considering the financial handicap under which they work. More education of the lay public, the Board of Public Works, and the members of the Legislature is necessary. The lead in this educational effort should be taken by the West Virginia State Medical Association, for no other segment of the population has the knowledge and training requisite for the task.

Portions of *The Times* editorial are so apropos in our own state that we quote:

"Patients in mental institutions require the attention of the highest quality of labor in point of temperament, diligence and regard for responsibility. . . . The (Williamsburg) institution's patients will continue to suffer for lack of adequate attention until the State makes available the funds with which to attract the proper type of personnel to a difficult and even dangerous calling. The pay scales should be fixed at levels higher than those for comparable work in private pursuits. In that way and that way only will the State secure the desired quality and quantity of personnel necessary to maintain reasonable standards in our mental institutions. The humanitarian considerations involved offset the additional public money required to achieve this absolutely essential goal."

60 YEARS OF AN IDEA

This year marks the sixtieth anniversary of federated fund-raising for the support of community services. The idea of holding one joint campaign each year for the support of several services was first put into operation in Denver, Colorado, in 1887. Out of that idea grew and developed the Community Chests of which there are now 1,000 in the United States and Canada. Each year about a million unpaid volunteer campaigners help to raise the funds for the support of 12,000 Red Feather services in these communities.

More than 80,000,000 persons live in the areas covered by Community Chests or their Red Feather services. Child care, family service, character-building activities and health service are those usually supported by Community Chest campaigns. Each year four out of ten families benefit directly from these Red Feather services. Everybody in these communities benefits indirectly from the work they do. This is the growth that an American idea has achieved in 60 years.

AID FOR SPASTICS

Cross section surveys, notably in Maryland, New Jersey, Illinois, and California, indicate that 96 persons out of 100,000 population, or approximately one out of a thousand, are child victims of spastic paralysis, or cerebral palsy. This information is contained in a report dated May 1, 1947, prepared by the Mississippi Association for the Aid of Spastic Children, and distributed by the Mississippi Society for Crippled Children and Adults.

If this ratio holds true for West Virginia, it means that we have approximately 1900 spastic children in this state for whom no specific treatment is provided. No census of those afflicted with cerebral palsy has ever been undertaken by any department, bureau, or division of the state government, and we respectfully suggest to the state health department, the department of public assistance and the vocational rehabilitation division of the department of education, that a survey be made through the proper channels to ascertain the number of spastics in each county in the state.

This survey is suggested in view of the fact that several states have already established institutions for the care of cerebral palsied children. According to the Mississippi report, 27 states have already instituted programs for the care of these children. In New York, $150,000 has been appropriated for research, and institutions have recently been established in North Carolina, Illinois and California.

Commenting upon the fact that there are several times as many victims of cerebral palsy as there are those permanently afflicted by poliomyelitis, the Mississippi Report estimates that of the possibly 154 cerebral palsied children who will be born in that state in 1947, one-seventh, or 22, will die at an early age, and one-fourth of the remainder will be feeble minded. The other 98 will live on "with normal or occasionally brilliant minds, in heartbreak and despair, unless something is done for them."

In submitting its report, the Mississippi Association recommends that a hospital-school for the cerebral palsied children be constructed in that state. "The nature of cerebral palsy," it is stated, "is such that medical care, physical training, and education must be carried on simultaneously so that the child may develop in all respects at a corresponding rate." It is recommended that the state institution be composed of two divisions, the first of which would be primarily medical, and the other educational, the two working together as a closely knit unit.

It is estimated that at least seventy per cent of cerebral palsied children can learn to care for themselves, and that possibly as many as fifty per cent can become partially or wholly self-supporting.

Some little research has already been done in West Virginia by the crippled children's division of the department of public assistance, and our information is that a partial report will be made at a meeting which will be held this fall. It is to be hoped that a definite start can soon be made by the proper divisions or bureaus of the state government to assure for the hundreds of unfortunate children afflicted with cerebral palsy a chance to receive treatment, care and training that might mean the difference between self-support and dependence upon state aid.

HOW TO SAY "YOU HAVE TB"

Faced with the problem of telling a patient he has tuberculosis, a doctor must take into consideration the patient's temperament. More thought must be given to how to inform the patient he has this disease than is the case with an acute condition.

If the patient is a worrier, it is often best to tell a stable member of his family first. This member of the family may be able to help the patient over the initial shock of the news. Sometimes it may be better to talk to the patient and the family member together.

If the doctor uses an evasive, protective approach or if he clouds the subject with more or less mystery, fear of the disease may be accentuated in the patient's mind. The patient should be told in such a way that no doubt is left of the potential seriousness of the situation. He must know, too, that the final outcome is largely dependent on his cooperation.

Time taken to sit down to an unhurried discussion of the patient's condition at the outset may mean the difference between success and failure. A patient cannot be told in three simple words that he has tuberculosis, as he can be told that he has appendicitis. His confidence must be built up and he must be made to feel that he is to be a rational, intelligent partner of the medical men in piloting his future course.—John C. Ham, M. D., in NTA Bulletin.

VETERANS GOOD MEDICAL STUDENTS

Of those who returned from the first world war to the study of medicine, some did well, and a few brilliantly; but many found it hard to readapt themselves to academic life, and either abandoned medicine or qualified late. This time it is different: men from the Forces have delighted their teachers with their zeal and grasp of essentials; indeed some who were previously the despair of their mentors have apparently turned over a new leaf. No single reason explains the difference, but it may be largely due to three circumstances—improved selection, the changed character of Service life, and the grim times in which we live.—The Lancet.

General News

ANNUAL HEALTH CONFERENCES SET FOR CLARKSBURG AND BECKLEY IN OCTOBER

The annual northern district health conference, under the auspices of the state department of health, will be held at the Stonewall Jackson Hotel, in Clarksburg, October 17. The conference for the southern district is scheduled for Beckley, October 20.

The Clarksburg meeting will get under way at 10:00 A. M., with Mrs. Olive Ward Snyder, supervising nurse for the Marion County Health Department, Fairmont, presiding. The following program will be presented during the morning:

N. H. Dyer, M. D., state health commissioner—"An Explanation of the Tuberculosis Law Passed at the Regular Session of the Legislature, 1947"; Alexander Witkow, M. D., director of the bureau of county health work, Charlecton—"The Next Year in County Health Work"; and E. B. Carroll, principal sanitarian, Monongalia County Health Department, Morgantown—"The Local Health Work in Relation to the Food Handlers' Program." Section meetings will be held during the afternoon for health officers, public health nurses and sanitarians.

The following program will be presented at the morning session at Beckley, October 20, with Mr. A. L. Lively, sanitarian, Bluefield, presiding: W. C. Handlan, executive director of the West Virginia Industrial and Publicity Commission, Charleston—"The Value of Sanitation in Recreation Facilities in the State"; L. Steele Trotter, secretary of the state board of control, Charleston—"Keeping Active Tuberculosis Patients in the Sanatoria"; Mrs. Maurice A. Hylbert, public health education consultant, Madison—"Community-School Health Councils"; and Oliver Matthews, sanitarian, Preston County Health Department, Kingwood—"Improved School Sanitation."

The usual section meetings for health officers, public health nurses and sanitarians, will be held during the afternoon.

KANAWHA HEALTH UNITS MERGED

Dr. Leon A. Dickerson, of Madison, has accepted appointment as director of the Kanawha-Charleston Health Department. The appointment was announced by Hawthorne D. Battle, of Charleston, chairman of the board set up to effect consolidation of the two health units. He will assume his new duties October 1. His appointment is for a term of four years.

The merger of the Kanawha health units is the first to be effected under the provisions of a bill passed by the legislature at the regular session in 1947, which authorizes the consolidation of city and county health units in this state.

Doctor Dickerson, a native of Fayette County, who is now county health officer for Boone County, was graduated from the Medical College of Virginia in 1935 and after serving an internship at Baroness-Erlanger Hospital, Chattanooga, Tennessee, located for practice at Glen Ferris, where he remained until 1938, when he enrolled at the University of North Carolina for an advanced course in public health. Late in 1938 he was appointed county health officer for Fayette County. In 1940 he accepted appointment as venereal disease control health officer for the state health department.

Doctor Dickerson held a commission in the army reserve corps and was called to active duty in February 1941. He served as instructor in the medical service school at Brooks General Hospital, San Antonio, Texas, until 1944, when he was transferred to the 232nd General Hospital, located in the Pacific theater. He served as chief laboratory and medical inspector with that hospital.

Upon his release from the service in 1946, Doctor Dickerson returned to Boone County, where he accepted appointment as county health officer.

NEW MEDICAL DIRECTOR FOR AHA

Dr. Charles A. R. Connor, instructor in medicine at the New York University's College of Medicine, has accepted appointment as medical director of the American Heart Association, to succeed Dr. David D. Rutstein who resigned to accept the post of professor of preventive medicine at the Harvard Medical School.

During the past year, Doctor Connor has served as associate physician in cardiovascular diseases and assistant chief of the cardiovascular clinic at Lenox Hill Hospital, New York City. He has also served as cardiologist for the New York City Department of Health and as attending consultant to the Veterans Administration in that city.

ACADEMY OF DERMATOLOGY AND SYPHILOLOGY

The sixth annual meeting of the American Academy of Dermatology and Syphilology will be held at the Palmer House, in Chicago, December 6-11. Special courses in histopathology and mycology are scheduled for December 6-7, at the medical schools of the University of Illinois and Northwestern University. Teaching clinics will be held at the University of Illinois College of Medicine, in Chicago, on the afternoons of December 8-9-10.

Full information concerning the meeting may be obtained by addressing Dr. Earl D. Osborne, Secretary, 471 Delaware Avenue, Buffalo, New York.

THE INFANT AND CONSCIOUSNESS

The newborn infant does not possess a consciousness; at least, not a consciousness as we know it. Consciousness materializes as the child learns through experience to differentiate his own being from that of his environment. But still a newborn babe may disclose the characteristic somatic changes of fear. The babe, prior to the development of consciousness, is instinctively afraid of loud noises or falling. Forcibly impede the movements of the newborn and he will exhibit the somatic physiology of rage.—James Clark Maloney, M. D., in J. Michigan St. Med. Soc.

CAUTION IN USE OF SURPLUS DRIED PLASMA URGED IN NEW ARC REPORT

Since the inauguration in January, 1946, of the program for the distribution of free blood plasma in West Virginia, an average of 400 units of plasma per month has been distributed to physicians and hospitals in this state. The plasma, which is furnished by the American Red Cross, is mailed without cost with the understanding that no charge is to be made by the hospital or the doctor for the plasma. However, there may be a charge for its administration to patients.

A report, dated August 15, 1947, prepared by the committee on blood and blood derivatives of the advisory board on health service of the American National Red Cross, concerning the incidence of homologous serum jaundice following the use of surplus dried plasma, was received recently by Dr. N. H. Dyer, state health commissioner. The committee is composed of Dr. Charles A. Janeway, chairman; and Drs. Elmer L. DeGowin, Charles A. Doan, Isidor S. Ravdin, Robert F. Loeb, and Edwin J. Cohn.

As the information will be of interest to all doctors and hospitals using surplus blood plasma distributed under the program of the American Red Cross, the bulletin is reproduced in its entirety:

The Committee on Blood and Blood Derivatives of the Advisory Board on Health Services of the American National Red Cross believes that the possibility of disease transmission by the injection of human blood and certain of its derivatives should be reemphasized to state and territorial departments of health and through them to practicing physicians within their jurisdiction. Although many diseases theoretically might be so transmitted, homologous serum hepatitis or jaundice following the administration of pooled plasma has proved to be the greatest practical problem; first, because of the difficulty or impossibility of detecting infective donors; second, because of the practice of pooling 10-50 bloods to reduce the isohemagglutinin titer; and third, because of the availability of dried plasma as a result of the distribution of surplus blood derivatives by the American Red Cross.

In the instructions for the use of Normal Human Dried Blood Plasma, prepared under the direction of this committee and sent out to departments of health at the time of the initial distribution of the surplus plasma received by the American Red Cross from the Army and the Navy, attention was called to the possibility of virus transmission under the section headed Adverse Reactions from the Administration of Human Plasma. It was emphasized that jaundice might develop from 1 to 4 months after administration, if a particular lot were contaminated with the virus of homologous serum jaundice.

The committee has reconsidered the advisability of distributing this plasma on several occasions, but has always felt that, in view of the lack of availability of whole blood or other relatively safe blood derivatives in many parts of the country, plasma would save many more lives than would be lost from the occasional severe case of hepatitis which might result from its use. At the same time, steps were taken to determine as accurately as possible the real risk to the patient from the use of the surplus plasma being distributed by the American Red Cross. Studies were initiated in several states. One of these carried out by the New York State Department of Health has now progressed to the point where sufficient figures are available for tentative conclusions. In 649 patients followed for 6 months after transfusions of this plasma, 29 cases of hepatitis have been observed, while there have been no suggestive symptoms of hepatitis in 1,597 household contacts of these 649 patients, thus suggesting that the disease actually was homologous serum jaundice and not epidemic infectious hepatitis. This figure of 4.5% thus represents the probable maximum incidence of the disease in recipients of random lots. It is lower than the 7.3% incidence reported in approximately 1,000 patients receiving pooled serum prepared by the Northwest London Blood Supply Depot in Great Britain, but the size of their pools was somewhat larger.

There is every reason to believe that whole blood, fresh or frozen plasma prepared by hospital blood banks, or commercial plasma, as well as convalescent serum, may all transmit the same agent, but the factor of pooling greatly increases the probability factor with plasma. On the other hand, there is good evidence that the two most widely used products of plasma fractionation are free from this risk. In the case of Immune Serum Globulin (normal human serum gamma globulin) distributed by the American Red Cross for the prophylaxis of measles, follow-up studies have been made on approximately 1,900 patients. Only one case of jaundice occurred within 6 months of injection and, in that case, 74 other children received the same lot without developing any evidence of hepatitis. In the case of Normal Human Serum Albumin (salt-poor) a heat treatment used in its routine preparation has been shown to inactivate a strain of homologous serum hepatitis virus. Various promising studies on methods for inactivation of this virus in plasma are under way, but nothing has been perfected thus far. Finally there is evidence that the disease may be transmitted from patient to patient in hospitals by the use of improperly sterilized or unsterilized syringes and needles.

This committee still does not feel that plasma should be withdrawn from distribution. However, it does believe that all practicing physicians should be reminded of the potential risk to the patient in the administration of pooled plasma and urged to restrict its use to those instances, chiefly serious emergencies, when its use is clearly indicated and when safer agents such as whole blood or serum albumin are not available. Moreover, physicians who see patients with hepatitis should make a habit of inquiring about their injections with blood or its derivatives during the preceding 6 months and of reporting such cases to the state or territorial department of health.

Patients who have been hospitalized within 6 months and particularly those who have received injections of human blood, plasma, or serum during that period should not serve as blood donors even though they

may feel perfectly well. Furthermore, potential blood donors should be rejected if a history of jaundice among members of their household within a period of the past 6 months is obtained.

IMPORTANT FALL MEETINGS

The regular fall meeting of the Council of the West Virginia State Medical Association is being held at Charleston as this issue of the Journal is on the press (September 24).

Two other late September meetings were called early in the month by Dr. N. H. Dyer, state health commissioner. The advisory council to the hospital survey planning and construction program in this state was scheduled to meet September 19 to consider plans for hospital construction, prepared as a result of the hospital survey which has been in progress for several months. A public hearing on the plans was scheduled for September 30, at the Capitol, in Charleston. The Hill-Burton hospital construction bill requires that a hearing must be held prior to the submission of plans to the USPHS, at which individuals or groups may offer criticism or suggestions.

The state health department will submit the detailed plan for hospital construction in this state to Washington sometime during the early part of October. Doctor Dyer has stated that construction will be authorized on a priority basis, with the highest priority given to communities where the need for hospital and health facilities construction is the greatest.

VA HOME-TOWN MEDICAL CARE CONFERENCE

The Council on Medical Service of the American Medical Association is sponsoring a "Conference on VA Home Town Medical Care Program", which will be held at the A. M. A. headquarters in Chicago, November 6, the day preceding the annual conference of state secretaries and editors. Each state medical association has been invited to send a representative to the conference, and the Veterans Administration has been requested to have representatives present.

This meeting was included in the Council's annual report, and the recommendation was approved by the House of Delegates of the American Medical Association at the annual meeting in Atlantic City in June.

HOSPITAL LICENSING ADVISORY BOARD

A seven-member hospital licensing advisory board has been appointed by Governor Clarence W. Meadows under the provisions of the hospital licensing act, passed by the legislature at the regular session in 1947. The members will serve as consultants to the commissioner of health in the matter of issuing licenses to hospitals, sanitariums, nursing homes, and other related institutions.

The new board is composed of John S. Alfriend, Charles Town; Charles Warner, and Dr. C. R. Adams, Charleston; Dr. H. C. Myers, Philippi; J. S. Turk, Wheeling; Sister M. Carola, Huntington; and James L. Foster, Bluefield.

RELOCATIONS

Dr. John Q. Godbey, of Sophia, has moved to Glen Daniel, where he will continue in general practice.

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Dr. Robert G. Smith, formerly of Beckley, has located at Columbus, Ohio, where he has offices at 327 East State Street. He will limit his practice to general surgery.

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Dr. Daniel N. Pickar, formerly of Wheeling, has accepted appointment as assistant chief of the medical service at the Nichols Veterans Administration Hospital, Louisville, Kentucky.

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Dr. O. W. Corder, who has been in industrial practice at Minden, has located at Weston, where he is a member of the staff of the General Hospital.

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Dr. F. J. Stashak, of Sharples, has moved to Nellis, where he will continue in industrial practice.

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Dr. Edwin J. Euphrat, formerly of Elkins, has accepted appointment as director of the department of radiation therapy at West Penn Hospital, Pittsburgh.

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Dr. Harold W. Ward, formerly of Sutton, is now serving on the medical staff of the Veterans Hospital, at Huntington. He was released from military service in July 1946, after serving nearly four years with the medical corps of the army. He held the rank of major at the time of his honorable discharge.

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Dr. Owen Poling, of Mason, has moved to Eskdale, where he will continue in general practice.

HOSPITAL CONSTRUCTION PAMPHLETS

A comprehensive program for the construction of hospitals and health facilities has been launched under the provisions of the Hill-Burton law, enacted by Congress in 1946. To help communities realize the benefits of this legislation, the United States Public Health Service has just issued a series of five pamphlets.

"The Hospital Survey and Construction Act" is a summary of the law and regulations. "Why We Need More Hospitals" gives the story of hospital needs in this country. "The Hospital Act and Your Community" tells in simple terms what the program means to states and communities. "Hospital Quiz" is a series of questions and answers on hospital planning. "What is a Hospital System?" describes a coordinated hospital system, intended to extend the scope of hospital care. Sample copies of these pamphlets are available free on request to the United States Public Health Service, Washington 25, D. C.

CONFERENCE OF SECRETARIES AND EDITORS

The annual conference of state secretaries and editors, sponsored by the American Medical Association, will be held in Chicago, November 7-8, 1947.

SOUTHERN MEDICAL AT BALTIMORE

The 41st annual meeting of the Southern Medical Association will be held at the Fifth Regiment Armory, in Baltimore, November 24-26. General headquarters will be established at the Armory.

Registration will open Monday morning, November 24, at 8:30 o'clock, and the program that day will be conducted by local members of the profession. The meetings of sections will be held on Tuesday and Wednesday.

Besides the general clinical sessions on November 24, a general business session will be held at the Lyric Theater. In addition to the section meeting on November 25, a general public session featuring the address of the president will be held at the Lord Baltimore Hotel that evening and will be followed by the president's reception and ball. No night meeting will be held on Wednesday, November 26.

Requests for hotel reservations should be addressed to Hotel Committee, Southern Medical Association, 1714 O'Sullivan Building, Baltimore 2, Maryland. No reservations will be made directly with physicians, and requests for reservations should be filed with the Hotel Committee without delay.

GRADUATE INSTRUCTIONAL COURSE IN ALLERGY

The American College of Allergists has announced a fall graduate instructional course in allergy, November 3-8, at Cincinnati, Ohio. The course will be under the auspices of the College of Medicine at the University of Cincinnati.

The program will cover fundamentals such as physiology, immunology, psychosomatics, and pathology; special allergies such as mold, food, bacterial, and physical; pharmacology of drugs used in the treatment of allergy; preparation of allergenic extracts; techniques of skin testing; and the determination of allergic history.

Adequate consideration will be given to specific diseases including bronchial asthma, allergic bronchitis, bronchiectasis, Loeffler's syndrome, Meniere's disease, hay fever, and aural, ocular, vascular, joint and neuro allergy. There will also be comprehensive symposiums on dermatologic and pediatric allergy.

The fee for the course has been fixed at $100. Early registration is urged because the number of students may have to be limited due to the facilities of the hotels and the College of Medicine of the University of Cincinnati. Full information, including a copy of the program, may be obtained from the secretary, Dr. Fred W. Wittich, 423 LaSalle Medical Building, Minneapolis, Minnesota.

INITIAL MEETING OF PROGRAM COMMITTEE

The initial meeting of the Scientific Work Committee of the State Medical Association will be held at Charleston, October 4, to outline the scientific program for the annual meeting in 1948. The committee is composed of Dr. Russell B. Bailey, Wheeling, chairman; Dr. W. W. Point, Charleston; and Dr. George F. Evans, Clarksburg.

PEDIATRIC CONSULTANT NAMED

Dr. Henrietta L. Marquis, of Charleston, has been appointed by Dr. N. H. Dyer, state health commissioner, as part-time pediatric consultant to the division of maternal and child health.

Before moving to Charleston in 1946, Doctor Marquis was located at Beckley, where she practiced her specialty of pediatrics. She has participated in the child health program of the state health department since she came to West Virginia in 1935, and has served as a clinician at the Well-Child Conference in Beckley.

CONGRESS ON INDUSTRIAL HEALTH

The 8th Annual Congress on Industrial Health will be held in Cleveland, Ohio, January 5-6, 1948, during the mid-winter meeting of the AMA house of delegates. The meeting was previously scheduled for October 8-10, in Detroit, but was changed because of a conflict with the annual meeting at that time of the American Public Health Association.

DEAN J. LESTER HAYMAN HONORED

Dean J. Lester Hayman, Ph. C., M. S., of the College of Pharmacy at West Virginia University, and secretary of the West Virginia Pharmaceutical Association, was recently named president elect of the American Association of Colleges of Pharmacy. He will be installed at the annual meeting in August, 1948.

NEW EVAPORATED MILK MANUAL

A new manual for doctors, "Infant Feeding With Evaporated Milk," which has been published by the Evaporated Milk Association, presents for ready reference thoroughly documented facts regarding the nutritive value, special digestive aspects, uses, and safety and convenience of evaporated milk, now fortified with 400 USP units of vitamin D per reconstituted quart.

The manual bears the seal of acceptance of the Council on Foods and Nutrition of the American Medical Association.

Copies of the manual may be obtained from the Research and Editorial Division, Evaporated Milk Association, 307 North Michigan Avenue, Chicago 1, Illinois.

VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in Toronto, Canada, May 6-8, 1948, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy sent not later than February 1, 1948, to the corresponding secretary, Dr. T. C. Davison, 207 Doctors Building, Atlanta 3, Georgia.

CITATIONS AND AWARDS INFORMATION NEEDED

The final edition of the book, "Courage and Devotion Beyond the Call of Duty," which is composed of official awards and citations received by U. S. medical officers during World War II, is now being prepared by Mead Johnson & Company, Evansville, Indiana.

Any physician, who has not already done so, should write to Mead Johnson & Co. advising them of the awards he has received and also send a typewritten or photostatic copy of his citations. The following additional information would be of assistance in compiling the material for this book: Present rank or rank at time of discharge, branch of service, from what university and in what year M. D. degree was received, and date of entry into the service.

CANCER SOCIETY COMMITTEE TO MEET

A meeting of the executive committee of the West Virginia Cancer Society has been called by the chairman, Dr. Russell B. Bailey, of Wheeling, for October 3, at Charleston.

12,000 SERVICES

When you make a pledge to your Community Chest campaign you are supporting essential Red Feather Services designed to benefit everybody in your community. There are 12,000 such Red Feather services throughout the country.

These are activities as available and as vital to all as police and fire protection, water supply, light and power.

Give generously, therefore, to your Community Chest Red Feather campaign for your own benefit.

DR. McLAUGHLIN ON PROGRAM

Dr. Ralph S. McLaughlin, of Charleston, will present a paper before the National Safety Conference and Exposition, October 10, at the Stevens Hotel, in Chicago. He will speak on the subject of "Methods of Saving Eyes from Chemical Burns."

VD POSTGRADUATE COURSE

The ninth postgraduate course in the clinical management and public health control of the venereal diseases will be conducted at the U. S. Public Health Service Medical Center, Hot Springs National Park, Arkansas, October 27-November 15, 1947. The course will be available to health officers interested in the clinical aspects of venereal disease control, as well as physicians in private practice who have been cooperating with state and local health departments. Lectures and demonstrations will be given by specialists in the various fields of the management and control of the venereal diseases.

Applications should be submitted to the Medical Officer in Charge, USPHS Medical Center, Hot Springs, Arkansas.

WEST VIRGINIA UROLOGICAL ASSOCIATION

At a meeting of urologists held in Huntington, September 11, the West Virginia Urological Association was organized with the election of the following officers: President, Dr. R. D. Gill, Wheeling; vice president, Dr. G. G. Irwin, Charleston; and secretary-treasurer, Dr. C. A. Hoffman, Huntington.

The new association will seek formal affiliation with the West Virginia State Medical Association, and the matter will be presented to the House of Delegates at the annual meeting in 1948.

NEW VD FIELD EPIDEMIOLOGIST

Mr. Samuel J. Hawkins, of Richmond, Virginia, has been appointed by Dr. N. H. Dyer, state health commissioner, as field epidemiologist for the bureau of venereal disease control. He succeeds Mr. David Strong, who has been transferred to the central office of the United States Public Health Service, at Washington.

Mr. Hawkins will be on loan from the USPHS. He has recently been located at Columbia, South Carolina, where he has held a similar position with the state board of health.

USE OF CONTAINERS RESTRICTED

A regulation adopted at a recent meeting of the public health council prohibits the use of containers provided by the West Virginia state hygienic laboratory for purposes other than sending specimens for examination and diagnosis of diseases to that laboratory. The regulation is effective October 1.

The annual loss of containers has long been a serious problem, and according to Dr. N. H. Dyer, state health commissioner, drastic steps had to be taken or the laboratory compelled to discontinue furnishing this service. The loss to the laboratory last year amounted to approximately $12,000 because of the failure to return containers, which are mailed without charge to doctors, hospitals and public health agencies throughout the state.

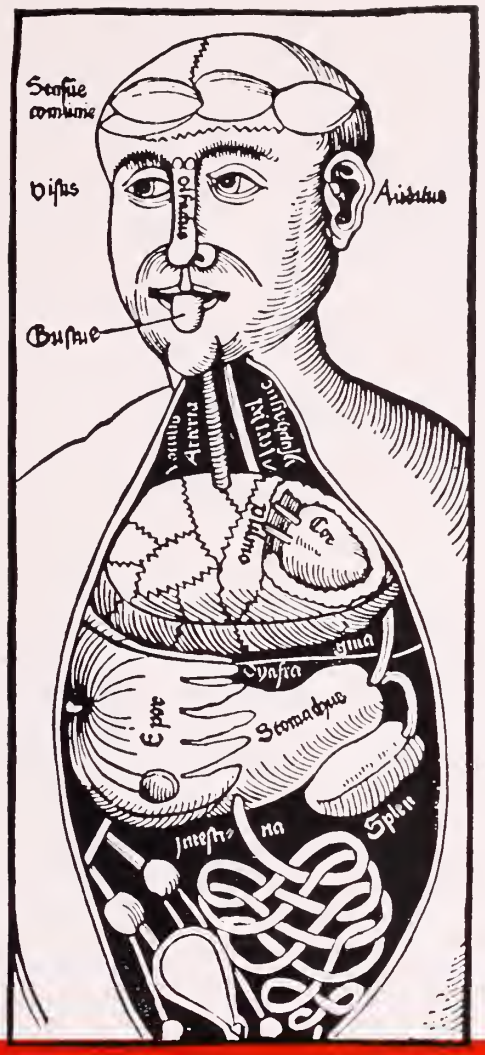
MOBILE DENTAL UNITS PURCHASED

Two mobile dental units, each fully equipped, have been purchased by the bureau of dental hygiene of the state health department. Two full-time dental clinicians will be assigned to each trailer, and treatment and preventive service will be provided in the rural areas of the state to underprivileged children through the sixth grade of school. The eligibility of the child to avail himself of this free service will be determined by the principal and teacher of the school.

A dental hygienist attached to the state department of health will visit the community to provide the educational phase of the program prior to the arrival of the mobile unit.

The trailers were purchased as the result of a two-year cross-section study of the dental needs of school children in the state.

Anatomic woodcut: Title page from Pyligk Campendium; 1516—Courtesy, The Bettmann Archive



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SEARLE RESEARCH IN THE SERVICE OF MEDICINE

CHEST DIAGNOSTIC FACILITIES EXPANDED

Expansion of present chest diagnostic facilities in this state will be made as the result of a program sponsored by the state health department and the West Virginia Tuberculosis and Health Association. The sum of $10,000 was appropriated for this purpose at the 1947 session of the legislature. Control measures will include x-ray clinics and tuberculosis diagnostic clinics.

Diagnostic clinics served by clinicians are already in operation in Boone, Fayette, Logan, Marion, Marshall, Monongalia, Ohio and Harrison counties. Three counties, Kanawha, Hancock and Raleigh, have monthly x-ray clinics, but do not have the services of a clinician. In Lewis, Wood, McDowell, Mingo, Mercer, Greenbrier and Berkeley, organized groups are undertaking to establish regular monthly clinics with all facilities. Service in the other thirty-seven counties of the state will be provided by a traveling unit staffed with a tuberculosis specialist as a clinician. X-ray service will also be available.

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By the use of a secret gadget developed and manufactured during the war by the National Bureau of Standards, it is hoped that many will be saved from death by carbon monoxide poisoning. The N. B. S. Carbon Monoxide Indicator consists of a small glass tube, filled with yellow chemicals which turn green within 30 seconds if any of the poisonous gas is present.—R. N.

County Society News

BOONE

Dr. George F. Grisinger, of Charleston, was the guest speaker at the regular monthly meeting of the Boone County Medical Society held September 10 at Madison. His subject was "The Patient Complains of Indigestion."

The speaker discussed the classification of types of indigestion by causes. The paper was illustrated by x-ray films.

L. A. DICKERSON, M. D.,
Secretary.

* * * *

CABELL

At the regular monthly meeting of the Cabell County Medical Society, held at the Hotel Prichard, in Huntington, September 11, Dr. Lloyd Griffith Lewis, of Washington, associate professor of urology at Georgetown University School of Medicine, and consultant in urology to the Secretary of War, was the guest speaker. His subject was, "Management of the Prostate."

THOMAS L. GROVE, M. D.,
Secretary.

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KANAWHA

Dr. James W. Merricks, associate professor of urology at the University of Illinois College of Medicine, and secretary of the Chicago Urological Society, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held at the Daniel Boone Hotel, September 16. His subject was "Urinary Tract Infections."

* * * *

MONONGALIA

Dr. Robert B. Lawson, of the department of pediatrics, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina, was the guest speaker at the regular monthly meeting of the Monongalia County Medical Society, held September 2, at Morgantown. His subject was, "Recent Concepts Regarding the Spread and Treatment of Poliomyelitis."

Dr. Robert R. Trotter and Dr. Olan Terrell Coffield have been elected to membership in the Society.

CLARK K. SLEETH, M. D.,
Secretary.

DR. BITTINGER REELECTED

Dr. W. P. Bittinger, of Summerlee, was reelected president of the West Virginia Tuberculosis and Health Association at the organization meeting of the board of directors held in Charleston, September 18. Other officers were elected as follows: Vice President, Dr. William L. Cooke, Charleston; secretary, Dr. J. L. Patterson, Logan; and treasurer, Robert C. Hawkins, Charleston.

The following were elected as members of the executive committee: Dr. George F. Evans, Clarksburg; Dr. Leo H. Mynes, and Miss May N. Maloney, Charleston; Dr. G. R. Maxwell, Morgantown. Edmund P. Wells, of Charleston, is executive secretary of the Association.

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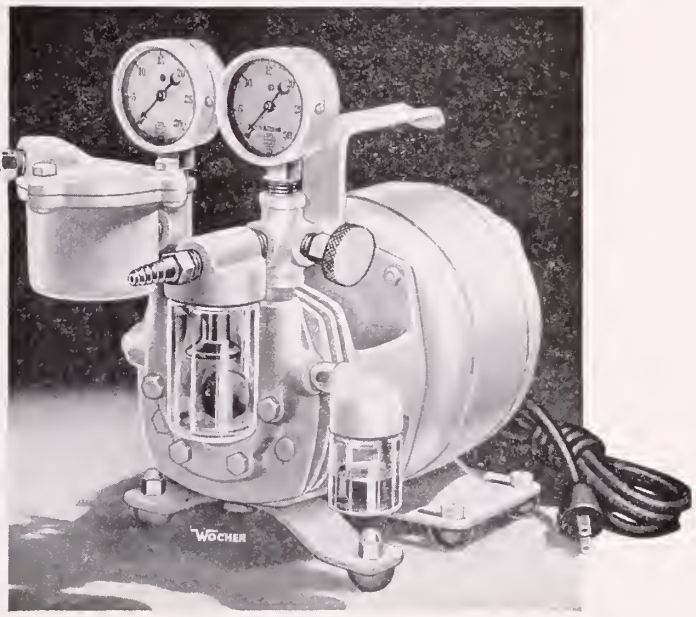

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Book Reviews

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY (21st Edition)—By W. A. Newman Dorland, A. M., M. D., F.A.C.S., Lieut. Col., M. R. C., U. S. Army; Member Committee on Nomenclature and Classification of Diseases of the A. M. A.; Editor of "American Pocket Medical Dictionary". Pp. 1660, with 880 illustrations, including 233 portraits. With the collaboration of E. C. L. Miller, M. D., Medical College of Virginia. Philadelphia and London: W. B. Saunders Co. 1947. Price $8.00 without thumb index; $8.50 with thumb index.

In the preface to the twenty-first edition of this medical dictionary, the most valuable of the entire series heretofore published, it is stated that the "dictionary aims to cover as completely as possible the voluminous additions to medical terminology resulting from the research and discovery of the war years." The new edition is complete in every detail, and those who use a medical dictionary are assured of a comprehensive coverage of new words appearing in medical terminology since the publication of the twentieth edition in 1944.

Additions include fields of war medicine and surgery; tropical and aviation medicine; medical zoology and mycology; biochemistry and pharmacology, with antibiotics, enzymes, vitamins, and endocrines; physics; and nucleonics, including the medical applications of radioactive isotopes of the chemical elements.

The new definitions used have been supplied by teachers in their respective fields, and names of proprietary medicines, used in previous editions, have been culled to eliminate those found to be obsolete.

Contributors to the new edition include doctors prominent in the profession, residing in various parts of the United States and Canada.

The author has compiled what will undoubtedly prove to be one of the most popular and widely used medical dictionaries ever published in this country. It is valuable alike to doctors, medical students, nurses, and teachers, and is a decided improvement over the twentieth edition.

* * * *

CONCISE ANATOMY—By Linden F. Edwards, Ph. D., Professor of Anatomy, Ohio State University, Columbus. Pp. 548, with 472 illustrations (some in color). The Blakiston Co., Philadelphia. Price $5.50.

The book Concise Anatomy, by Linden F. Edwards, supplants his somewhat larger text entitled Anatomy for Physical Education. The author says the new text is not intended as a substitute for a treatise on anatomy to be used by medical students, but written primarily to meet the requirements of nurses, medical technicians, and related fields.

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The text material appears sound, but seems too difficult for those for whom it is intended and not complete enough for medical students.—Simon B. Chandler, M. D.

* * * *

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1946. Cloth. Price, postpaid, $1.00. Pp. 135 Chicago: American Medical Association, 1947.

This volume, which appears annually, contains the reports of the Council on Pharmacy and Chemistry for the calendar year 1946. It is made up essentially of reprints from the Journal but contains also some reports of a minor nature which did not appear in that periodical. Moreover, editorial comment appearing in the Journal relative to the actions of the Council is included.

This series of volumes was formerly of most interest to those who wished to know why the Council on Pharmacy and Chemistry had not accepted certain of the preparations it had considered. The reports were mainly those of rejection; though, through the years, the educational nature of the Council's work was attested by status reports on drugs, or therapeutic procedures, or preliminary reports on agents showing promise of usefulness but not yet ready for adoption by the general and medical profession. In recent years, the tendency has been toward a preponderance of the educational type of report. In the present volume, both the condemnatory and the educational phases of the Council's work are represented.

There are three reports of vigorous condemnation: first, the report on Cabasil, a curiously unscientific mixture whose exploitation for use in a multitude of diseases is aptly summarized by the sub-title of the report, "Quackery Unlimited"; second, the report on the pseudo-scientific Ethylene Disulphonate (Allergosil brand), a preparation of highly uncertain nature exploited to physicians for use in allergic conditions; third, Formula A-N-1, a joint report of the Council on Pharmacy and Chemistry and the Council on In-

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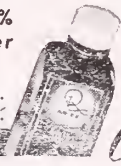

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dustrial Health, concerning an expensive but poor substitute for aspirin and citrate of magnesia, cleverly promoted to industrial concerns for use in reducing absenteeism due to colds.

Among the status reports, the excellent article of Dr. Samuel M. Feinberg, "Histamine and Antihistaminic Agents", is probably most worthy of mention. Since its appearance, the Council has accepted for inclusion in New and Nonofficial Remedies, the two new agents of this class evaluated in the article, Diphenhydramine Hydrochloride, and Tripelennamine Hydrochloride (Benadryl Hydrochloride and Pyribenzamine Hydrochloride, respectively).

Pharmaceutical and scientific investigators, alike, will be interested in the informative report on the Council's new Therapeutic Trials Committee. Of special interest to manufacturers is a statement on the revised rules of the Council, though this exposition of the trends of Council policy is of concern to all who are interested in progressive rational therapeutics.

Attention is called to the several reports on the adoption of generic designations for drugs proposed or marketed under protected names. Not all such actions of the Council have been the subject of separate published reports; the recognized terms have appeared in the published descriptions of the drugs when accepted, and will be inserted in another Council publication, New and Nonofficial Remedies, as adoption of such designations for already accepted protected names proceeds.

THE NEED FOR A FAMILY DOCTOR

The most urgent need of our civilization is a family doctor who can see the human organism as a composite whole and deal with it physically and psychologically according to its individual needs. The consummation of this ideal is best achieved in the rural community.

The rapid development of ultrascientific methods and mechanistic aids to diagnosis and treatment has rudely pushed aside the time honored relationship between patient and doctor. It is doubtful if there has been a period since the time of Hippocrates when science, in cold calculation, has so readily discarded the art of medicine. It is equally doubtful that humanity, though blessed with the gift of science, has ever been so in need of human understanding endowed with the primal sympathy of man for man.

It is well for the general practitioner to remember that approximately 80 per cent of the people who call for a doctor are good for spontaneous recovery without the aid of medicine, but they would have a poor time psychologically without the advice of a wise doctor.

Finally, when illness strikes, it is of paramount importance to know how to stay the storm, to soothe the soul, to quiet the heart, and restore psychological balance, thereby helping to establish physiological equilibrium. This is the general practitioner's perennial privilege, rarely the specialist's.—Lewis J. Moorman, M. D., in Rocky Mountain Medical Journal.

Correspondence

VETERANS ADMINISTRATION
Regional Office
824 Fifth Avenue
Huntington 1, West Virginia
August 22, 1947

Mr. Charles Lively
Executive Secretary
West Virginia State Medical Association
Charleston, West Virginia

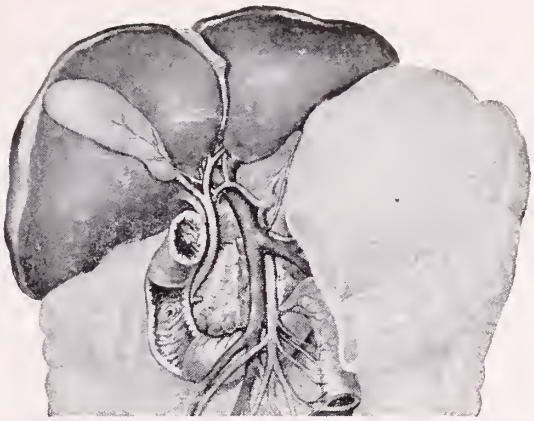
Dear Mr. Lively:

We are frequently receiving requests from civilian and state hospitals and designated fee-basis physicians who have some of our service-connected veterans under treatment for tuberculosis for authority to utilize streptomycin in their treatment.

The Veterans Administration has a board of physicians who make the decision as to whether this drug can be employed, and they have cautioned in the past that it is of value only in miliary and meningeal types and does not lend itself to the treatment of other types of tuberculosis.

We are in receipt of a Technical Bulletin which is a preliminary statement concerning the effects of streptomycin in tuberculosis in man, and I felt that the contents might be of value to those physicians participating in the plan between the Veterans Administration and the West Virginia State Medical Association so that they could be guided in the use of streptomycin in the treatment of tuberculosis and there would be no misunderstanding then as to why streptomycin cannot be furnished in the treatment of certain types of tuberculosis. This bulletin refers only to the tuberculosis and not to the utilization of streptomycin in infectious and other diseases.

Sincerely yours,
(Signed), Leo F. Steindler, M. D.,
Chief Medical Officer



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THE NURSE IN 1947

The various winds which have been blowing from all directions to fan the nursing problem have now gathered themselves together into a veritable storm. Shorter hours and better pay have been demanded by the nursing profession and are being granted, thus adding to the almost overwhelming cost to be met by the hospital patient today. The American Surgical Association added to the storm by charging that the nursing profession has "lost sight of the need of the sick for adequate nursing care."

Irene Carn, R. N., associate chairman of Skidmore College Department of Nursing—New York Postgraduate Medical School and Hospital, informs her profession that it must nurse people better by studying the means of so doing, by expressing and sharing findings, and by taking the time to work together.

Dr. Frank H. Lahey, of Boston, calls attention to the fact that in 1941 he expressed apprehension over the nursing shortage at that time and now, six years later, sees no immediate prospect of any improvement in the situation. Doctor Lahey calls for an expression of ideas from everyone involved. He opposes the amount of medical instruction given nurses under the present curriculum, believing that few nurses comprehend it, let alone ever will use it. To him it is a waste of the physician's time spending so much time in medical instruction to nurses. Two years of high school is adequate for a service nurse and four years of high school an adequate preliminary for any nurse. He favors two types of nurse education, one for the service nurse and one for the nurse educator. The motif of personal service is being lost. Any hospital having an inadequate number of nurses should meet its obligations by organizing a service nursing program "or something comparable to it."—Connecticut State Medical Journal.

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POLIOMYELITIS

Poliomyelitis is a virus disease and primarily an intracellular infection. The care of patients with central nervous system involvement is not a matter of treatment directed against the virus but rather a matter of preserving the usefulness of muscle fibers which have not been deprived of nerve supply.

Collins has reported that the fifteen year average incidence from a number of localities is approximately 5.7 cases per 100 in the white population. He also found that one-third of the crippling in the children up to 15 years is due to poliomyelitis.

The best treatment in this disease is early treatment; many children's lives can be saved if seen early and the disease recognized early; many disabilities may be averted with early and persistent routine care. The objectives in treatment are: (1) to save the patient's life; (2) to stop the spread of paralysis; (3) to treat involved muscles in the quiescent stage. Pediatric care and nursing are of great value early in the disease. If the patient with bulbar involvement survives for forty-eight hours without an extension, the disease usually stops spreading and recovery (if the disease is solely bulbar in type) is complete. It is the little but important things that count, such as aspiration of mucus from the throat, postural drainage, purgation, sedation, oxygen and nursing care.

Parents must be made to realize that the best possible results are obtained by institutional treatment of the child, even though the period of treatment may run as long as two years. Early diagnosis, early and persistent treatment, and orthopedic care will do much for the effective control of poliomyelitis.—J. Iowa State Medical Society.

PSYCHIATRY AND THE MEDICAL STUDENT

Until psychiatry is presented in the proper light, it will be difficult to stimulate the interest of the medical student. It takes a hardy soul to walk the wards where mental patients are housed, to see the overwhelming handicaps under which psychiatry operates in our large, overcrowded, understaffed public institutions, and still feel that psychiatry has an application to the everyday practice of medicine. The subject must be presented in a way that the student will understand and find challenging.—Robert H. Felix, M. D., in Mental Hygiene.

Cancer exists in trees, insects, animals, fish, in any type of living matter . . . Perhaps its close relation to the life process accounts for its unsolved causes. Cancer is found in preserved specimens of antique human bodies, and in malformations of fetuses today.—R. N.

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Vol. XLIII NOVEMBER, 1947 No. 11

CURIOUS TYPES OF ABDOMINAL PAIN*

By WALTER C. ALVAREZ, M. D.,
Division of Medicine, Mayo Clinic
Rochester, Minnesota.

Where I work, thousands of people come complaining of abdominal pain. They have the idea that we will go over them with such thoroughness that we will at last find the cause which they feel has been missed thus far; then we will cut out something, and they will be well. Unfortunately, most of them have to be disappointed because usually we do not find anything wrong in the abdomen. Often, after hearing the story and looking at the patient we do not expect to find anything because (1) he has been thoroughly examined by good doctors elsewhere, (2) his abdomen has been explored by good surgeons elsewhere, and (3) the history is that of a neurotic individual.

In many cases, the mere fact that the pain has been present for ten years or more shows that it cannot be due to carcinoma or to an intestinal obstruction or to anything that would get worse with time. If the patient had had serious disease, he would have come to a bad end long before.

Twenty years ago at the Mayo Clinic, we still were exploring the abdomens of some of these people, but today we have come to recognize certain syndromes so well that when we hear the typical story we refuse to operate because we are so certain that the pain is of a functional type. We know this simply because we have had the privilege of seeing so many persons who come with these puzzling syndromes. When I practiced alone I could not see enough such cases to identify the several types. As things are today, however, I wish to share with you some of my experience; I only hope you will forgive me if I seem at times to speak didactically and positively.

I have learned, for instance, that the syndrome of quivering or "butterflies" in the abdomen is always functional in origin. Burning in the epigastrium is, I think, always functional; it is a paresthesia out in the skin. The regurgitation of food during a meal or right after it is always functional, as is repeated belching. Such belching is not due to indigestion but rather to fear or to neurosis. Heartburn is, I think, almost always a functional trouble, as is the syndrome of the sore, hypersensitive and mucus-forming bowel. When a nervous woman complains of such symptoms one must look with doubt on any pains that she has.

Many persons with a constant ache in the right lower quadrant of the abdomen are thought to have chronic appendicitis, but my experience has been that if they never have had an acute attack of appendicitis it rarely does any good to take out the appendix. It rarely does any good, either, to operate for adhesions. As Osler said, adhesions are the refuge of the diagnostically destitute.

INFORMATION OBTAINED BY SIZING UP THE PATIENT

Today some physicians seem not to look at the patient enough; they do not size him or her up as they should. They seem to be too much interested in the laboratory reports. Even an intelligent desk girl will sometimes make the diagnosis of a neurosis or a psychosis. She will note that a woman keeps coming up to her every few

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minutes to ask her why she can't get in, or that the woman is jittery or unreasonable, and perhaps running out to the toilet every ten minutes.

So often one has to diagnose mild insanity from the way in which a person looks and acts while in the office. Often, also, one can learn much about a patient's hypersensitiveness and lack of good sense by watching how he or she submits to the various examinations. For instance, you know the type of man who flinches and pulls away when you try to examine his inguinal rings; he says it hurts too much when you push a finger up through the scrotum. He is too sensitive. Similarly, most patients go through a sigmoidoscopic examination without complaint, but then along will come someone who says that it is torture beyond human endurance. That tells all one needs to know about him. When a person is as hypersensitive as that one must discount much of what he says about pain.

We physicians should quickly recognize the person with cold, clammy, wet palms. Often his legs will be cyanotic and his blood pressure up a little. He has a sickly constitution and an irritable heart. We always should recognize the thin, scrawny girl who has been sickly all her life and who is a constitutionally inadequate type of person. She cannot be made over by any operation, and so far as possible she should not be operated on with the hope of relieving vague pains.

WHAT CAN BE LEARNED FROM THE WAY THE PATIENT GIVES THE HISTORY

One can learn a great deal that is useful from the way in which a patient tells his story. For instance, when a woman came in the other day, I asked her what her trouble was. She said she had so many she didn't know where to begin! That gave me the diagnosis, but I asked her to begin somewhere and she said, "Well, I have a headache." I asked her how long she had had it, and she said, "For eight months I have been terribly constipated." "No," said I, "I asked you how long you have had the headache." She said, "I don't think anybody should be as constipated as I am." Just to see how long she would keep this up, I said again, "No, I asked you how long you have had the headache." She said, "My uncle used to have some funny fainting spells." Again I asked, "How long have you had the headache?" And she said, "My doctor gave me a bottle of green medicine; I have it here, would you like to see it?" Dr. Ross, the great psychiatrist of England, told me once that people who answer questions in this way are mildly insane, and I think probably he was right.

Many a time as I have come to consult on a case my assistant has been working up, he has met me in the hall and has said, apologetically, "Doctor, I have tried for an hour and I haven't been able to get an intelligent or a sequent history out of this woman." And I have said, "Don't be ashamed, I could probably spend two hours more talking to her and I would not get a much clearer history than you did."

People like that are scatter-brained and illogical, and they do not know what they want or what is wrong with them. I rarely can do much for such a person, and I always feel I must discount much of what he or she says about pain. I never order an operation on this type of patient if I can help it because the results are so likely to be unsatisfactory.

HELPFUL POINTS OBTAINED FROM A GOOD HISTORY

It is important, always, to find out exactly what a person means by pain. Is it a real pain or is it only a burning, or a fluttering, or an ache? These last three symptoms are much more likely to be of functional origin than is a pain. Constant aches and aches which run up and down one side of the body are very likely to arise in the brain.

It may help to find that the pain complained of started after some psychic storm or great fear. It helps, also, to learn that a woman's first attack was associated with a fit of hysterics. Perhaps, then, the spells she now has are still of nervous origin.

Many of the pains I hear about every week are originating, I am sure, in the wall of the abdomen or thorax. Such pains are part of a fibrositis or of an arthritis involving the spinal joints and nerves. They are worse when a patient sits down or lies in bed and are better when he or she gets up and walks about. This point is very helpful in the diagnosis. It helps, also, to grasp a fold of skin and subcutaneous fat over the abdomen and to pinch it a bit. Often, then, the patient will say that that produces the pain. Obviously, then, it is not deep in the abdomen.

It is very important, as I said before, to find out just where the pain is in the abdomen. Often I see a patient whose pain has been supposed to be due to an ulcer, but because it is in the lower part of the abdomen I am practically certain it cannot be due to any lesion situated above the navel. In the cases of nervous women pains in the lower half of the abdomen usually are due to a sore colon.

Many of the persons I see with queer pains that come at any time have what I call nerves playing tricks with them. Often they are relatives of the

insane and very nervous, apprehensive and hypersensitive.

IS THE PAIN DUE TO A LESION IN THE DIGESTIVE TRACT?

One of the most useful ideas I can give you today is, always find out quickly if an abdominal pain is due to some lesion in the digestive tract. How will you do this? By finding out if it has any relation to any phase of the digestive cycle. Ask if it is made worse or better by eating, by passing gas, by defecation or by taking an enema or a laxative. If the pain never has any relation to any of these things, it probably is not originating in a lesion of the digestive tract. This one thought alone, if relied on more often by physicians, would immediately obviate many futile exploratory laparotomies. Oftentimes a surgeon would have saved himself the chagrin of performing a futile operation if he had only asked the patient one question, "Have you a good digestion?" If the answer then had been, "Yes, I have a cast-iron stomach,' the surgeon would have been warned that he was dealing with a pain originating perhaps up in the brain or in a fibrositis out in the abdominal wall.

THE TYPE OF DIAGNOSIS MUCH NEEDED TODAY

To show the type of old fashioned history-taking and examination and observation that I think we need much more of today, I will tell the story of a patient I saw a while ago. The man had brought letters from two physicians who said that for six months he had been suffering from a duodenal ulcer and that they each had given him a long Sippy treatment which had had no effect on his pain. Evidently they never had been taught that when a man with a supposed ulcer is put to bed on frequent feedings and alkalis, and does not get better within a few days, either the diagnosis is wrong, or the ulcer is a complicated one such as had better be operated on.

My assistant told me that our roentgenologists had seen a deformed duodenal cap and had confirmed the diagnosis of ulcer. I asked the patient when it was that he had had hunger pain and he said, "Twenty years ago." After that he had recovered and had had no further trouble of that type; for years he had had a "cast-iron stomach." Obviously, what all of the roentgenologists had seen was the scar of an old ulcer.

I then asked the man to show me just where his new pain was, and pointing first as near as he could to the ninth thoracic vertebra, he ran his hand down along the course of the ninth dorsal nerve on the left. Evidently, he had a typical root pain. As he got up out of his chair to greet me, I noticed that he lifted himself with his arms and supported his spine carefully so as not to jar it. When he walked he moved gingerly, almost on tiptoe. To see if he had a subacute inflammation of the joints of the spinal column I asked him if he got stiff on lying down or sitting, and if he got better on walking, and he said, "No, these things don't make any difference." My next hunch being that he should have a cord tumor, I asked him if he could sneeze or cough, and he said, "My God, no, doctor; that hurts like the jab of a knife, right here," and he pointed again to his ninth thoracic vertebra. The next day when Doctor Camp observed air going in through a spinal puncture needle he found that it stopped at the ninth thoracic segment, and a few days later Doctor Craig removed a pea-sized tumor from the anterior root of the ninth dorsal nerve on the left. After that the man was well.

I tell this story, not to show that occasionally I can make a diagnosis, but to show (1) how I think more diagnoses should be made today, and (2) why two good physicians were led astray. Evidently, they had trusted too entirely to a short, inadequate history taken by an assistant, and then they had accepted unquestioningly the roentgenologist's report. With just a little more care and thought they could have made the diagnosis just as easily and quickly as I did.

The value of having the patient point to the site of pain.—Incidentally, as I have just shown, one of the most important things we can do when a patient comes in with a story of pain is to have him undress and show us with his hand just where the pain is. Many a man will say he has pain in his "stomach" when what he means is that it is above his pubes or in the lower part of the abdomen, or even in his rectum.

The great need for cross-questioning patients.—Another of the great needs in medicine today is for cross-questioning patients as they tell their story. For instance, I saw a woman whose case had been worked up by an assistant. His written history told me that she had been coughing up large amounts of sputum every day, and that the roentgenologist had found shadows in the lower parts of the lungs which he thought might be due to bronchiectasis. The diagnosis seemed so obvious that all I did was to call a lung consultant. The first thing he did was to cross-question the patient just as I would have done if I had been called to his section to see someone with indigestion. He asked the woman when she coughed and what the sputum looked like. Imagine my surprise and chagrin when she said, "I never cough; the stuff just wells up into my mouth; I don't know where it comes from;

it looks like saliva." When asked if she had any trouble swallowing she said, "Yes; I have to wash solid foods down with water." Further study showed that she had a cardiospasm and was regurgitating the saliva which accumulated in the dilated esophagus. She had no bronchiectasis.

The more I see of the work of expert consultants in every field the more I am impressed with the fact that when puzzled they all depend for a diagnosis, as I do, largely on cross-questioning the patient to see exactly what he or she means by certain statements. Many bad mistakes are bound to be made whenever the intern or the assistant or the doctor puts down broad statements without checking to see if they are true in every detail.

Years ago, because I did not promptly check the details of a history, taken three times by well-trained assistants, I nearly sent a woman to what might easily have been her death, and thereby I got a scare from which I hope I never recover. One afternoon, as I was hurrying to get away for a trip, I found myself swamped with the demands of the many patients who wanted to see me before I left. Naturally, I tried to cut corners, and I thought I could easily do this when in came a stout, fine looking woman of forty whose record told me that she had come to the Mayo Clinic several years before, complaining of attacks of gallstone colic. Doctor Judd had removed her gallbladder which had been full of stones but she had gone on having her attacks of colic just the same. Now she was back with a diagnosis of probable stones in the common duct, and she was prepared to be operated on again. In her history it was stated that with the attacks she had had some chills and fever and slight jaundice.

The story was so typical of a stone in the common duct that I was about to send her to the hospital for operation, then I hesitated because she was overweight and not a good operative risk. It occurred to me also that I was breaking my rule and was not cross-questioning her. Accordingly, I said, "Tell me about these colics of yours; how bad is the pain?" She replied, "Who said I had pain? I never had a pain in my life." Surprised, I asked, "Well, then, what do you have?" She said, "I just vomit terribly for three days." "Did morphine do you any good?" "No, that made me worse."

Now painless vomiting for three days does not sound like gallstone colic; it sounds more like an attack of migraine. So I asked her if, before the attacks, she ever had headache on one side of her head. "Surely," she said, "that is the way the spells begin." I asked about the chills. "Oh, I may have had a chill once, but that was when I lost my temper with my husband." I asked about the jaundice and she said, "I wasn't really jaundiced, only perhaps a little sallow." I asked about the fever and she said, "When I get nervously upset I may run a temperature of 99.5." Then I found that her home doctor had learned to stop her spells with an injection of gynergen, and the diagnosis was clear.

Now, just think: if I had sent that woman in for a useless operation, and after it she had died with a pulmonary embolus, I would have felt like a murderer for the rest of my days. And all that saved me was the asking of a few questions!

PAIN IN THE ABDOMEN CAN COME FROM TROUBLE IN THE BRAIN

One of the things we physicians need most to remember today is that pain in the abdomen can be induced by worry or fear. I learned this during the influenza epidemic in 1918, when my little daughter of five came down with a rapidly overwhelming type of pneumonia, such as was killing most people so attacked in a few days. When fear struck at the pit of my stomach, it seemed as if someone were twisting my stomach off, and reverse waves kept running up my esophagus almost to strangle me. This went on for several days until the child showed that she was able to combat the infection.

A week or two later, after the child was out of danger, a man came in with symptoms like mine. I asked him what he was afraid of and he said, "Nothing." But shortly afterward I saw by the newspapers that he apparently was involved in the looting of a trust company and was facing indictment. He had good reason to be afraid.

Many times I have seen persons with pain in the abdomen which came with an attack of encephalitis, or with a brain tumor or a small stroke. Every internist and surgeon ought at times to pick up a book on psychiatry and read where it says that in many cases the first symptom of oncoming insanity is abdominal pain.

That severe pain in the abdomen can be due purely to disease in the brain was shown beautifully by the case of an elderly physician who came to me complaining of a constant pain in the epigastrium, so bad that he could not work. Because he had a high blood sedimentation rate and a history strongly suggestive of cancer of the pancreas, I went over him with the greatest care, but could not satisfy myself as to the diagnosis. A few weeks later his home physician wrote me that the man had died suddenly, and that necropsy had shown nothing wrong in the abdomen. What he had was a tiny carcinoma of the bron-

chus, so small that it did not show in the roentgenogram, and a good-sized metastatic lesion in the brain.

I remember well one of the first patients who, some thirty-five years ago, taught me that one can have much pain in the abdomen without any local cause for it. She was a handsome, pleasant and intelligent woman of thirty-five who had always been too tired to go out, and at times had had to go into an asylum because of recurrent mild depressions. For years she had had a constant pain in the right lower quadrant of the abdomen. During this time surgeons had removed successively, the appendix, the right tube and ovary, the uterus, the gallbladder, and the right half of the colon, but she still had her pain!

In the case of another frail young woman with pain of this type, I had a surgeon cut, first, all the nerves running out to the right from the cecum and ascending colon, and later all the splanchnic nerves, and still, with now a largely insensitive abdominal cavity, her pain went on just the same.

THE NEED FOR RECOGNITION OF THE MILDLY INSANE WHO SUFFER FROM ABDOMINAL PAIN

In order to be convinced that the average American surgeon today does not easily recognize hysteria or mild insanity, one has only to look at the badly scarred abdomens of some of the psychopathic women who eventually land where they belong, in the hands of the psychiatrists.

I remember one day when I gave a clinic at a big hospital. I had asked for a case of the common type of psychopathic woman who has had five or six futile operations. Accordingly, they wheeled in a thin, scrawny, sullen and obviously cyclothymic type of woman who had spent most of the preceding ten years in clinics and hospitals. She had had seven abdominal operations. As I picked up her history in its aluminum folder, I called the attention of the audience to the fact that it was about 3 inches thick, and I remarked that this alone practically made the diagnosis. With this the woman jumped off the table; she screamed that she wasn't there to be insulted and, cursing me, she ran out of the amphitheater.

I then looked through the record to see what the several surgeons had written before they had operated, and it was evident that several of them had recognized that the patient was psychopathic and constitutionally inadequate, but they all said that they were so anxious to help her that when the roentgenologist reported that the stomach emptied a little slowly or that the gallbladder looked as if it might have adhesions around it, or that the appendix pointed up or pointed down, they thought they'd "give her the benefit of the doubt" and operate. Actually, it would seem that they should have said, "This girl is insane and no operation will change that." Incidentally, even the psychiatrists who had seen the woman in the hospital would, I think, have been kinder if they had had the courage to come out flat-footedly and say that she was mildly insane rather than "chronically exhausted" or "overly anxious", or "biologically inferior." A diagnosis of "insanity" might have spared her the seven futile operations.

The lesson from all this is that especially when dealing with psychopathic or hysterical or constitutionally inadequate persons, the surgeon should be reluctant to operate, *even when the patient has gallstones or something definite to remove.* Even then, the chances are that the operation will not do any good.

NERVOUS BREAKDOWNS

Often it is important to recognize the fact that the person before us, with all his or her painful abdomen, has, primarily, a nervous breakdown. Many of the patients I see have a nervous breakdown which hasn't been recognized by the surgeons who operated or even by the internists who made the examination. One can learn of a nervous breakdown by asking if the patient is able to work comfortably. Often he or she will say that for a year or more work has been either difficult or impossible. Usually, if the patient is a business man I ask him what would happen if he went back to the store and tried to sell. The answer usually is that he would soon get jittery and nervous; that sweat would break out on him, that his head would tighten up, and that he would feel as if he were going to faint or be ill. He would have to excuse himself and go somewhere to lie down.

When I suspect a nervous breakdown, I always ask if the patient can read. These people cannot read because (1) they have lost their interest, (2) perhaps the lines run together or get fuzzy, (3) the eyes get tired, (4) the head tightens up, and (5) the patient forgets a paragraph as soon as he finishes reading it.

Another trouble with many of these people is that they cannot sleep. Some also are overemotional and cry. Pain in such persons often is functional in origin, and in such cases we physicians should avoid operations whenever possible.

CAN THE DISEASE THAT IS FOUND ACCOUNT FOR THE SYMPTOMS?

One of the most important ideas that I can give you today is that even when we physicians

find organic disease in the abdomen we must keep asking ourselves if this can explain the pain and the other symptoms of the patient. Unfortunately, this is an idea that does not occur to us often enough. For instance, over a year ago I saw a nervous, emotionally upset woman who complained of aches all over her body. I soon found that she was suffering mental torture because of a spastic child who had her enslaved, and who was driving a wedge between her and her husband. Unfortunately, during the examination the roentgenologists found two pea-sized gallstones floating around in a functioning gallbladder. When careful questioning showed that she never had had colic or any symptoms of cholecystitis, I advised her to leave the stones alone. I could not see how their removal could make her feel any better. Her home surgeon, however, overruled me, and the gallbladder was removed. Recently she was back, complaining bitterly of diarrhea which no one could stop. Since the gallstones had not been responsible for any of her symptoms, she naturally is no better for having had them out.

The other evening I saw a tense, nervous, young woman, a stenographer, who is having a hard time earning her living because she is so deaf. It is a constant strain on her to get what is said to her over the telephone or by her employer, and this adds much to her hereditary tendency to nervousness. Her complaint was of little cramps all through the abdomen. One of her home physicians had discovered a myomatous uterus and wanted to remove it, but her sensible old family doctor doubted if the operation was necessary, and he feared the psychologic reaction it might produce on a girl who wanted to marry and have children. Wisely, he said that myomas ordinarily do not produce any pain, and very rarely become sarcomatous. I agreed wholeheartedly with him, and I asked the girl what seemed to bring on her cramps. She said, "Any emotion, and especially worry and fear. For instance, I am having the cramps right now because I am so afraid of what you are going to tell me." Finally she told me that even when her beau kissed her she got cramps! To me, it seemed obvious that no one should remove a myomatous uterus with the hope of stopping a type of pain produced purely by nervous factors.

Severe pain due to posterior penetration of a duodenal ulcer.—Occasionally, I see a man with severe epigastric pain which keeps him walking the floor at night. Often the story is that his abdomen was explored once or twice and nothing was found. On talking to the man a while I find that years before he had spells of hunger pain, evidently due to an ulcer. Then, perhaps, he can recall a day when he was seized with severe pain in the abdomen, a pain which doubled him up. After that, food or soda no longer relieved the pain as it used to do. Often the roentgenologist can see a deformed duodenal cap. From the history alone one can be practically certain in these cases that a duodenal ulcer has perforated posteriorly into the head of the pancreas. The channel then is so narrow that although acid can get through to cause pain, food and alkalis cannot get through to give relief. The surgeon must operate again and feel behind the duodenum to find the inflammatory mass. A partial gastric resection then usually will work a cure.

Pseudo-ulcer, pseudo-cholecystitis and pseudo-appendicitis.—Quite a few patients have hunger pain without an ulcer. I think usually it is produced in one of four different ways. Some persons get it the day they are constipated; others get it when they eat some food to which they are allergically sensitive; others notice it when under the influence of emotion, and others when a cold is coming.

There are some persons who have what looks like gallstone colic in spite of the fact that they have a normal gallbladder, or have had the organ removed. I have seen several such cases in which the colic was due to the eating of some food to which the person was highly sensitive. I have seen also highly emotional persons who could get what looked like gallstone colic if they got angry enough. Others had a constant ache due apparently to unhappiness; others had pain due to fibrositis in the thoracic wall and a very few had hepatitis of some sort.

Some may ask, "What are the pains due to which keep coming in the right lower quadrant of the abdomen after the appendix is removed?" Some of them are part of the so-called mucous colitis syndrome, some are due to fibrositis of the abdominal wall, and some may be due to myositis of the iliopsoas muscle. Many, I feel sure, must be due to some sort of a storm in the brain which is referred out to the abdomen. Some I cannot explain in any way; I do not know what they are due to, but I am fairly certain that the cause is not to be found in the cecum or in the right half of the abdomen.

SUMMARY

Hints are given for the recognition of a number of abdominal pains for which no local cause can be found. One must size up the patient and note

how he or she gives the history and behaves in the office. More dependence must be put on a good history than on tests. Patients must be cross-questioned as to details of their histories. Unless this is done serious mistakes in diagnosis surely will be made. Many abdominal pains are referred out from the brain. Pain is often an early symptom of a psychoneurosis. The physician should learn to recognize quickly certain syndromes which almost always are functional in origin. He must be on the watch for nervous breakdowns which account for the abdominal distress of many patients. Often the physician must see clearly that the disease found in the abdomen cannot possibly explain the symptoms.

CEREBRAL PALSY IN CHILDREN

The spastic child differs considerably from the athetoid; his spasm is pyramidal in origin, and he cannot relax it; no amount of training in relaxation will help him to lengthen a spastic muscle. His difficulty must be approached in another way.

In any movement, the prime mover of a joint is a muscle acting against gravity or against resistance. Thus in the ordinary position of the arm the biceps is the prime mover of the elbow-joint. In the spastic child the tense biceps cannot lengthen steadily and easily in order to let the triceps straighten the elbow; but raise the arm above the head and the situation is changed: the triceps is now the prime mover, acting against gravity, while the biceps becomes the synergist, and it is now found that the child can easily straighten the arm. In other words, the biceps when acting as a synergist loses its spasm; for, as Wood Jones has pointed out, we cannot by taking thought alter the muscle sequence in a movement. Once the prime mover acts the synergists fall into their pattern and accompany its movements by changing length appropriately. The task, then, with the spastic child, is to teach him the feel of his muscles when they are acting without spasm: to give him a "kinaesthetic image" of the perfect movement. Once this has been achieved the child himself develops the idea—he learns to perform the same movement with the muscle in the ordinary anti-gravity position.—The Lancet.

DRUG ADDICT A PROBLEM

The drug addict is an old and distressing problem. Not only to the law enforcement officer, but even more so to the physician to whom the victim of the habit applies for care. The narcotic agent's only duty is to enforce the law where the professional and moral obligations of the doctor lie in helping the patient rehabilitate himself in an environment and under conditions which originally operated in inducing the habit. These obligations, however, do not constitute ground for disobeying the law. In fact the conscientious patient who makes a sincere effort to rid himself of his addiction should offer no objection to the mandatory consultation among physicians, and should be considerate enough of his doctor's legal obligations.

As to the vagrant who habitually preys on the medical profession, faking symptoms to obtain a "shot" from each doctor who fails to realize that he is being victimized, he has our sympathy, but for his own good, and that of the public, he must be dealt with in accordance with the law.—Nebraska St. Med. J.

CHRONIC URINARY TRACT INFECTION IN CHILDREN*

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Acute pyelonephritis or pyelitis is not an uncommon disease of children. Fortunately, in the great majority of instances this acute infection is more or less self-limited and responds readily to the usual accepted medical treatment. As a rule, acute pyelonephritis does not cause too much concern and with a well outlined course of treatment the child is well within a period of several weeks. However, there will be some children who will not respond to adequate medical treatment and who will continue to show infection in the urine. On the other hand, there will be patients who respond nicely to treatment and whose urine becomes free of infection, only to have it recur repeatedly. It is with these groups of patients that we have to be seriously concerned because there may be some pathologic lesion in the urinary tract which causes persistent infection or predisposes to recurrent attacks of infection.

Infection in the urinary tract which has persisted after adequate treatment, or which repeatedly recurs, may be termed a chronic infection. Chronic urinary tract infection in children is of extreme importance because usually it means that there is faulty drainage of urine in some part of the urinary tract, usually due to some obstructive element which is congenital in nature. It is for this reason that these patients deserve and should have early, complete and adequate study. If chronic pyuria is passed over lightly and the parents told that the child will outgrow it, it will mean only that in time the child may lose one kidney if the obstructive lesion is unilateral, or die as a result of renal failure if the lesion should be bilateral or situated in the lower urinary tract. No doubt there are a number of children who pass to their graves yearly or who reach adult life as total invalids because some obstructive lesion in the urinary tract went unrecognized. Usually when the urologist sees the patient for the first time the damage to the kidneys has been so extensive that very little can be done about it. So the importance of having these little patients investigated early, before irreparable damage to the kidneys has taken place, cannot be stressed too strongly.

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Children with chronic pyuria can be and should be investigated as thoroughly as one does adult patients. In this day with intravenous urography and the infant cystoscope developed to such a state of efficiency there is no reason for obstructive lesions in the urinary tract to go unrecognized. Children of all ages can be examined cystoscopically and with this means of investigation accurate and complete information as to the status of the entire urinary tract can be obtained. Therefore, it should be the aim of the physician to find the cause of persistent or recurrent infection, eradicate its cause and prescribe treatment to rid the urinary tract of infection.

Inasmuch as chronic pyuria in children so often is associated with an obstructive lesion (usually congenital in nature), the best means of appreciation of its significance is to understand the pathologic changes in the urinary tract. The pathologic lesions that predispose to and cause persistent urinary infection are many, and it will be impossible to enumerate them all at this time but some of the more common ones will be discussed. First of all one must keep in mind the possibility of tuberculosis in any chronic infection of the urinary tract and adequate studies must be made to rule out this disease. For all practical purposes the predisposing causes of chronic pyuria may be grouped under three heads: (1) obstructive, (2) nonobstructive, and (3) neurologic.

(1) *Obstructive Causes.*—Figures 1 and 2 are schematic drawings showing some of the various obstructive lesions in the urinary tract and these are almost self-explanatory. Obstructive lesions at any site in the urinary tract favor poor drainage of urine, thus creating stasis and predisposing to infection. When infection is present it will persist in most instances until the obstructive element is removed and adequate, complete drainage restored. One of the more common lesions seen is congenital phimosis. When the preputial opening has contracted to pinpoint size obstruction to the flow of urine occurs. During the act of voiding the stream will be of fine caliber and the prepuce will fill up under pressure, like a balloon, to deflate after the act is finished. If this condition should go untended balanitis is very prone to develop along with pyuria, and even stones may form under the prepuce. Back pressure changes in the urinary tract may develop also if this persists for any appreciable length of time. Congenital strictures of the urethra occur anywhere in the anterior urethra. However, the point of narrowing most often is seen at the region of the external urethral meatus. This partial stenosis of the urethra produces obstruction to the flow of urine and predisposes in

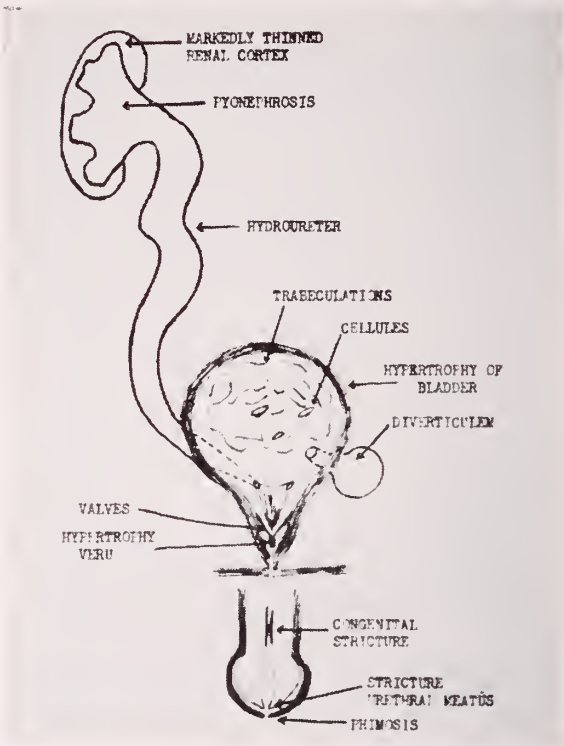

FIG. No. 2
SCHEMATIC DRAWING SHOWING OBSTRUCTIVE LESIONS AND RESULTS ON URINARY TRACT

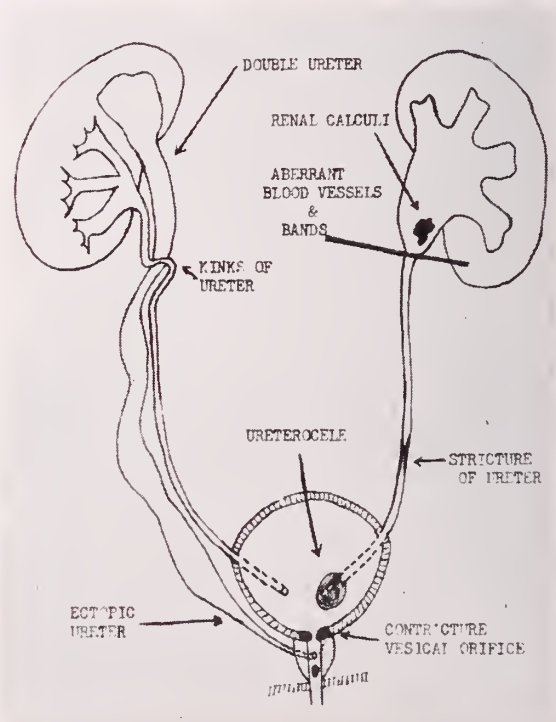

FIG. No. 1
SCHEMATIC DRAWING OF OBSTRUCTIVE ELEMENTS

time to incomplete emptying of the bladder and resulting infection. Here, also, back pressure changes may ensue as time goes on. Perhaps the most notable obstructive lesions in the lower urinary tract are valves in the posterior urethra, contracture of the vesical orifice and congenital bars at the vesical neck. The changes in the urinary tract under such circumstances may be very much the same as those seen in a man of advanced age with hypertrophy of the prostate.

Figures 3 and 8 show the changes that take place in the urinary tract with obstruction at the vesical orifice. The sequence of events here is as follows: First, difficulty is experienced in emptying the bladder with resultant increase in residual urine, usually with infection. The bladder then first becomes hypertrophied as it works against pressure. The walls thicken and trabeculations occur. Gradually the amount of residual urine increases, the bladder wall thins out and cellules

FIG. No. 3

and diverticula develop. Later the ureters become dilated and tortuous and hydronephrosis develops, which gradually increases to massive size. With the increasing hydronephrosis there is gradual destruction of the renal parenchyma, with resulting changes in the blood and other tissues of the body and, ultimately, the individual dies as a result of renal insufficiency.

Figure 8 shows very graphically and vividly the results of obstruction at the vesical orifice. This young man when first seen gave the following history: At the age of three his parents noticed that he had difficulty in making his water, having to sit and strain at each attempt to pass urine. The parents were impressed with this and sought medical aid. At the age of five he was having considerable difficulty passing his urine, was running considerable albumin and pus in the urine, and was almost completely incontinent, this no doubt being an overflow incontinence. Sounds were passed without relief and

FIG. No. 8

he wore a rubber urinal up until the age of fourteen when it was discarded because he started to void better. When he became a young man in the prime of life he presented himself for examination because of persistent infection and albuminuria. It was found that he had a congenital bar at the vesical orifice, with enormous hydroureters, hydronephrosis and very little renal function. This individual had reached adult life with greatly damaged kidneys, and his span of life will be shortened because he was not more adequately treated when he first had symptoms in infancy.

In the upper urinary tract the obstructive lesions may be either bilateral or unilateral. If bilateral and the fact not appreciated, the ulti-

mate course will be death of the individual from renal failure and, if unilateral, ultimate destruction of the kidney. One of the most common lesions is that of aberrant blood vessels coursing across the ureter to the lower pole of the kidney at the uretero-pelvic junction. Figure

FIG. No. 4

4 shows the resulting hydronephrosis from aberrant blood vessels causing obstruction at the uretero-pelvic junction.

Obstructive lesions in the lower ureter lead to hydro-ureter, persistent infection, decreased function of the kidney and hydronephrosis. Figure 5 shows a stricture of the intramural portion of the ureter with hydronephrosis and hydro-ureter.

Kidneys with congenital malformations, regardless of type, are especially noted for poor drainage and are very susceptible to infection. A good example of this is the horseshoe kidney (as seen in figure 6) with a massive infected hydronephrosis. Removal of the left half of the horseshoe kidney was necessary for cure. Other congenital conditions, such as bifid renal pelvies, reduplication of the ureters and ectopic ureters that open in such ectopic positions as the posterior urethra, vagina and other sites, as shown in figure 1, usually result in dilatation of the ureter with hydronephrosis and persistent infection.

(2) *Nonobstructive Causes.*—In some children infection in the urinary tract will persist and after complete urological investigation no evidence of any obstruction is found. Drainage of urine is adequate. Figure 7 illustrates a child who has chronic pyelitis and no obstructive lesion could be noted in the urinary tract. This group presents a very serious problem. If the infection cannot be controlled and eliminated by vigorous medical treatment it will mean that the child more than likely will die as a result of renal failure similar to that of chronic nephritis. The result here will be that of a chronic intrinsic infection terminating with a small fibrotic contracted kidney with ultimate renal insufficiency.

(3) *Neurologic Group.*—In any neurologic lesion, such as spina bifida, in which the nerve supply to the bladder is affected, emptying of the bladder is disturbed, there is residual urine, and

FIG. No. 5

infection is prone to develop. In most instances this infection persists regardless of how vigorous medical treatment may have been. It is wise to have these patients seen by the nerologic surgeon as he may be able to offer some help. Occasionally one sees hydro-ureters and hydronephrosis with no evidence of any obstructive lesion. These may be classified as megalo-ureters, apparently due to some disturbance of the nerve supply to the ureters.

With a general understanding of the various obstructive lesions in the urinary tract which

cause and predispose to persistent infection, it is easy to appreciate the fact that the symptoms the child presents may be quite varied. When the obstruction is in the lower urinary tract one usually will get the history of some difficulty with the act of urination, such as straining to void, apparent pain on voiding as the child strains and cries during the act, or the mother may notice a mass in the lower abdomen suggestive of a distended bladder. Another thing the mother may notice is blood on the diapers of the child. When the obstruction is in the upper urinary tract the symptoms may be those that would not direct one's attention to the urinary tract primarily. Chronic pyuria may be manifested by general symptoms directed to the gastrointestinal tract, such as nausea, vomiting, diarrhea, and abdominal pain, failure to take food, and failure to develop normally and gain weight. Then, too, the

FIG. No. 6

child may present a picture of a chronic nephritis. In so many instances the only lead will be the finding of pus in the urine. Here it is wise to remember also that the child may have any of these serious obstructive lesions in the urinary tract and the urine be free of infection. Thus, it is wise in cases of children who are not developing normally or who have gastrointestinal symptoms, abdominal pain, et cetera, to keep the urinary tract in mind and investigate this system, after all other possibilities as to the cause have been exhausted, and a diagnosis may be made. In the management of an acute infection of the urinary tract, follow-up examination of the urine is very important to be certain that infection has been completely eliminated from the urine and that the urine remains free of infection.

FIG. No. 7

Treatment is comprised of complete investigation of the urinary tract with identification of the offending organism, elimination of obstructive lesions, and vigorous medical treatment to eradicate the infection.

In conclusion, it is important to remember that chronic infection in the urinary tract of children can be a serious condition if unrecognized and untreated, since so often it is the result of some type of obstruction in the urinary tract. The appreciation of this fact, coupled with early recognition and correction, will mean the difference between a well child today, a death from renal insufficiency or a young adult tomorrow totally crippled due to the lack of reserve renal tissue.

"EXCITEMENT HEADACHES"

Most headaches children have after seeing the movies are "excitement headaches," a form of tension headache, which are not helped by glasses, explains Dr. Frank D. Carroll, of the College of Physicians and Surgeons.—R. N.

RECTAL DILATOR IN PERINEAL REPAIR

By A. P. HUDGINS, M. D.
Charleston, W. Va.

In perineal and rectal sphincter surgery it often is necessary to place a finger in the rectum to act as a fixed point about which dissection and suturing can be planned and executed. A rectal dilator (½ to 1 inch in diameter and 4 inches long) placed and fixed in the rectum has been found to be an excellent substitute.

The use of this large rectal dilator as a definite aid in accomplishing perineal repair using the specially devised bilateral stab wound method of dissecting the perineal muscle has been reported previously.[1] The purpose of this presentation is to reiterate the usefulness of employing the dilator in gynecologic procedures and in obstetrics to facilitate tissue inspection, and as an aid in repair following delivery.

As the first step of the operation in perineal repair, the well lubricated dilator is inserted into the rectum, guided by a finger in the vagina. It is held in place by towel clips attached to the skin. As a safety precaution, it may be advisable to use several dilators, gradually increasing the size, finally leaving the largest, 1 inch in diameter, in place.

The effectiveness and usefulness of the rectal dilator technic are increased if certain details of procedure are observed:

1. The dilator must be of a type that permits easy insertion. A large rim about the base of the dilator enables one to grasp and insert it easily without contaminating the field. Graduated sizes should be available.

2. Specially devised holes in the end permit the dilator to be retained securely in place by towel clips.

3. The dilator should be inserted as the first step in the operation and retained throughout. By observing this point, the full benefit both for dissecting and suturing can be obtained. It never will be necessary to insert the finger in the rectum at various times for tissue identification, frequent repetition of which is time consuming and constitutes poor technic.

4. The dilator should be large in diameter (1 inch) and long enough (4 inches). A vaseline sponge held in a forcep, inserted into the lumen of the rectum, frequently is used to identify the rectal wall. The long, uniformly large dilator has many advantages over this sponge-forceps technic. The lower bowel is uniformly and constantly dilated at all times. The dilator acts, as the sponge-forceps cannot, as a definite counterpoint for muscle dissection. The sponge is useful only when identified and moved about. There is the constant possibility of the sponge being expelled and requiring reinsertion. Each time the forceps is grasped and moved, the field may be contaminated. The large rectal dilator constantly and continuously identifies the entire course of the lower four inches of the bowel, aiding in dissection (for counterpoint pressure) and suturing without requiring handling or manipulation from the anal area. Furthermore, the anal area is covered and protected by the base rim of the dilator.

5. Dilating the rectal sphincter for a half hour or more, as is done by leaving the large dilator in place throughout the operation, has a definite advantage in bowel hygiene. Many operators believe that as the last step in perineal repair, three fingers should be placed in the rectal sphincter for three to five minutes to paralyze temporarily this muscle. Rectal sphincter stretching is more easily, simply and effectively accomplished by the retained dilator technic. It is important to prevent straining for defecation with pressure against a recent operative wound. Physiologic rest, tissue healing, reduction of tissue swelling and reestablished fluid balance can be effected within a few days.

When the dilator is used the muscles are more easily dissected, and their course can be more quickly, easily and completely followed.

During suturing, when the dilator is in place, the lower part of the rectum is clearly outlined and there is no question of puncturing the bowel, with the possible development of perirectal abscess. The rectum is clearly seen and identified and the needle point can be kept away from it. If, due to any error, the needle should be inserted into the rectum, the hard dilator is immediately struck and identified and the needle can be withdrawn.

In obstetric practice rectal dilators should be kept routinely on the episiotomy tray.

After the episiotomy incision has been made and the infant delivered, the area is cleansed and the rectal dilator is inserted. It may be advisable to have a guiding finger within the vagina to direct the insertion and to use graduated sizes, working up to the 1 inch diameter size.

With the sphincter well stretched, and the entire bowel well outlined, the area can be sponged off and an adequate evaluation made of the tissue status (mucosa, fascia and muscles).

At times fibers of the rectal sphincter have been torn, or the lumen of the rectum invaded

when such occurrence is unsuspected. This may be true either when a midline or paramedial episiotomy or no episiotomy at all has been done. With all of the muscle structures clearly outlined, it is much easier to accomplish an anatomic approximation. If sutures need to be placed in the rectal sphincter, the proper approximation of these muscle fibers is more easily carried out. If not, the levator ani muscles can be pulled together by clearly outlining the left and right folds as a definite layer.

In these instances, also, by dilating the lower bowel, the structure is more clearly outlined, and invasion of its lumen by a suture is much less likely to occur.

This procedure not only permits the experienced operator to accomplish his work with greater assurance that muscles and other structures are approximated by layers as they should be, but it is a tremendous aid in hospitals which are teaching institutions.

The structures in this area are clearly outlined, to make anatomic demonstration of damage which has resulted at the time of delivery, and to facilitate the repair of these structures by less experienced hands.

SUMMARY

The use of a 4 inch rectal dilator (½ to 1 inch in diameter) is an aid in perineal dissection and repair. Its advantages are:

A. In gynecology
   1. Dissection is facilitated.
   2. Suturing is more accurate.
   3. The structures are outlined clearly.
   4. Asurance is given that the rectum will not be invaded.

B. In obstetrics
   1. Easy demonstration of damage to muscles or rectum produced by the delivery of the child, or if extension of the episiotomy should have occurred.
   2. Complete outlining of muscles.
   3. Aid in the proper placing of sutures.

C. As a method of teaching
   1. The anatomy of the area is clearly outlined.
   2. The experienced surgeon is able to accomplish the work more rapidly.
   3. In teaching centers structures are clearly defined so that certain pitfalls can be avoided.

This method has been used in approximately 250 cases with completely satisfactory results.

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MENTAL HYGIENE AND MEDICAL CLINICS

An excellent opportunity to apply the principles of mental hygiene exists in every clinic giving assistance to patients whose illness is causing emotional stresses and strains incident to living.

The well baby clinic offers the best opportunity to reach the apprehensive and fearful mother who is unable to rationalize some of the child's behavior incident to development under certain abnormal stresses in the home. The problems of alcoholism, epilepsy, as well as the neuroses and psychoses, may be reached by way of a good family history taken in a well baby clinic. Many problems stemming from ignorance and poverty may be remedied by good family counseling and liaison with public health and welfare agencies in the community.

The tuberculosis in-patient and the out-patient suspect both require special psychiatric services to enable them to make a positive adjustment which will contribute to a more rapid cure. The development of the proper philosophic outlook involves many adjustments in the emotional as well as economic levels of family life. A good family history taken from the patient in the hospital or clinic should be followed up by a home visit at frequent intervals to keep in constant communication with the various emotional and economic problems in the family, and arising as a result of the disability of a member of that family.—C. M. Meeks, M. D., in Nassau Medical News.

MENTAL ATTITUDE TOWARD BREAST CANCER

The attitude of the individual woman toward breast cancer is an important factor in the control of this disease. Her attitude is going to determine whether we will continue to have 15,000 and more deaths annually in this country from cancer of this site. She can take a sensible attitude toward the problem, attack it with determination and face whatever comes with courage; or she can take an emotional attitude, be so afraid that she will not even look for signs of breast cancer, and will not act if she becomes aware of one. The first attitude will accomplish much; the second will accomplish nothing.

There is only one sensible course of action for the woman who would guard herself against breast cancer. She must watch for early signs of the disease, knowing that the highest percentage of cures occurs in those cases in which it is discovered and treated in its early stage. If she finds a sign of breast cancer, she should seek the most competent medical service available to her and ask to be told the truth.

What has been said above concerning breast cancer in woman may be said for men. Breast cancer in man occurs infrequently, 0.5 per cent, but men like women seek medical advice late in many instances.—Eugene P. Pendergrass, M. D., in J. South Carolina Med. Assn.

THE DIAGNOSIS AND TREATMENT OF ACUTE CORONARY DISEASES*

By ARTHUR M. MASTER, M. D.
New York, N. Y.

Heart diseases are by far the most frequent causes of death. It is little appreciated, however, that coronary artery disease alone, with the possible exception of cancer, is responsible for more fatalities than is any other disease. Yearly, 115,000 persons succumb to coronary disease.

To combat coronary artery disease effectively, its significance and prevalence, plus the fact that there are several acute coronary diseases must be recognized. Coronary artery diseases fall into two distinct groups: (1) acute coronary artery insufficiency, and (2) acute coronary artery occlusion. The first comprises the short, simple attack of angina pectoris and the more severe form in which myocardial necrosis takes place; the second, those cases of complete closure of the coronary artery that develop during the progression of arteriosclerosis.

Acute coronary insufficiency as a clinical entity is a relatively new concept which has not until recently been accorded due recognition. It is a condition distinct from acute coronary occlusion, having characteristic etiologic factors, pathologic pattern, physiologic mechanism, and electrocardiographic features. More important, it is amenable to treatment, both preventive and curative, whereas acute coronary occlusion is not responsive to known therapy. Failure, therefore, to differentiate acute coronary insufficiency from acute coronary occlusion is reflected in the outcome for the patient.

The differential diagnosis is not difficult if it is realized that the two conditions are entities, and their distinguishing characteristics are kept in mind. Acute coronary insufficiency varies in severity. In the single short attack of angina pectoris due to coronary disease, chest pain is transitory, a few seconds to minutes in duration. The attack is precipitated by exertion, excitement, ingestion of food, cold, and the like. It is relieved by nitroglycerin. Gastrointestinal manifestations, fever, leukocytosis, and increased sedimentation rate are not present. When the pain disappears, the patient's condition is good. The blood pressure does not fall; in fact, it may rise. An electrocardiogram taken during the attack may show transient RS-T depressions and T-wave inversions, or it may be normal.

In the severe form of acute coronary insufficiency in which myocardial necrosis takes place, severity and duration of the chest pain usually is greater than it is in an attack of angina pectoris. Numerous underlying causes act as precipitating agents. An episode may be associated with exertion, trauma, sexual intercourse, straining at stool, excitement and emotion, extremes of heat and cold, infection, excessive simultaneous use of tobacco, alcohol and food, tachycardia, auricular fibrillation or flutter, hyperthyroidism and hypothyroidism. It may follow shock, peripheral collapse, heart failure, or bradycardia. It may be a consequence of operation, anesthesia, anoxemia of many types, carbon monoxide poisoning, acute hemorrhage, hypotension, hypothyroidism, hypoglycemia, or adrenalin. It may result from status asthmaticus, or from pulmonary infarction and embolization, particularly if they are repeated; it may occur reflexly from disturbances in the abdominal viscera, especially if these are acutely diseased. Combinations of these causes are observed commonly.

The symptoms and signs of a severe attack of acute coronary insufficiency are those to be expected with a disease that is more serious than simple angina pectoris. Frequently, however, they are not so grave as the symptoms presented by acute coronary artery occlusion. Pain, shock, change in heart sounds, fall in blood pressure, fever, leukocytosis, increased sedimentation rate, when present, usually are not so marked as they are in acute coronary occlusion. A severe attack of acute coronary insufficiency leaves the heart muscle with many diffuse areas of subendocardial necrosis. These necrotic areas often are observed in the papillary muscles, but the endocardium and the pericardium are not involved. For this reason, thrombus formation on the cardiac wall with consequent embolization is not encountered and pericardial rub is not heard. There are several factors which explain the localization of myocardial necrosis to the subendocardium. In the first place, its rich supply of capillaries renders this region most susceptible when the supply of blood to the cardiac muscle becomes inadequate. Furthermore, since small branches from the coronary arteries turn at right angles into the heart muscle and end beneath the endocardium, this area is farthest from the source of nourishment. (The endocardium itself receives blood directly from the ventricular cavity.) Finally, the subendocardium and papillary muscles receive the brunt of intramuscular pressure during the isometric phase of systole.

The electrocardiogram discloses depressions of the RS-T segments and inversions of the T-wave.

*Presented before the 80th annual meeting of the West Virginia State Medical Association, at Charleston, May 13, 1947.

Since the prognosis for patients with acute coronary insufficiency is good provided the precipitating factors are removed, proper care of these patients requires that appropriate treatment be instituted as early as possible. In the case of a patient with coronary sclerosis, for example, physical exertion should be limited to the myocardial reserve, and he should pursue a rational existence, both mentally and emotionally. Food, liquor and tobacco should be taken only in moderation, particularly when taken together. The sulfonamides, penicillin, and streptomycin should be given to combat infections; digitalis, mercury, and quinidine should be given to relieve heart failure, tachycardias and cardiac irregularities; thiouracil or iodine should be given for hyperthyroidism. When shock occurs the circulatory blood volume should be restored by blood transfusion or other intravenous fluid. During operation adequate oxygen should be supplied for all types of anoxemias. When hemorrhage takes place repeated whole blood transfusions will prove preventive and curative. In prevention of cyanosis a competent anesthetist and an adequate supply of oxygen are more important than the type of anesthesia. Postoperative pulmonary infarction and embolism may be avoided by having patients become ambulatory as soon as possible after operation, by administration of heparin and dicumarol, and by ligation bilaterally of the femoral vein when these measures are required. Avoidance of pulmonary diseases eliminates one cause of acute coronary insufficiency. The ability to assure a favorable outcome in acute coronary insufficiency is in contrast to the prognosis in acute coronary occlusion, for which only symptomatic treatment is available.

Acute coronary occlusion is the designation applied to sudden complete closure of the coronary artery, an accident that may develop during the course of progressive arteriosclerosis. Such an attack occurs fortuitously; it may take place any time or anywhere, and it is not related to effort and excitement. In fact, it most frequently takes place during sleep and rest, simply because the larger part of the day is spent in these states. The symptoms and signs are well known: crushing, substernal pain (not relieved by nitroglycerin), nausea, vomiting, shock, fall in blood pressure, change in heart sounds, gallop rhythm, fever, leukocytosis, and increased sedimentation rate. The illness is prolonged and permanent changes in the heart usually ensue. Autopsy shows the coronary artery completely closed by a thrombus which is formed directly on an intimal plaque, or originates from an intimal hemorrhage that has broken through the intimal lining. A hematoma within the intima may cause complete obstruction of the lumen without thrombosis. The infarct is large, extending from the endocardium through the pericardium. The resulting pericarditis gives rise to a friction rub. Involvement of the endocardium frequently results in thrombus formation and embolization.

The electrocardiogram in acute coronary occlusion is specific. Evaluations of the RS-T segments progress steadily to inverted T-waves. The Q-waves are large and there is a reciprocal relationship between leads 1 and 3. The RS-T elevations are associated with the pericardial and subpericardial involvement, the Q-waves with the massive through and through ventricular injury, possibly septal damage.

Treatment of acute coronary occlusion should be directed toward relieving the patient's symptoms. Active or drastic measures are contraindicated unless complications make intervention necessary.

SUMMARY

Acute coronary artery diseases alone, with the possible exception of cancer, cause more fatalities than any other disease. Their importance is, therefore, manifest.

There are two chief acute coronary artery diseases: (1) acute coronary insufficiency, and (2) acute coronary occlusion.

The prognosis for patients with acute coronary insufficiency is good, provided the precipitating factors are removed. Proper care of the patient requires that appropriate treatment be instituted as early as possible. The ability to insure a favorable outcome in acute coronary insufficiency is in contrast to the prognosis in acute coronary occlusion, for which only symptomatic treatment is available.

HOBBY FOR THE AGED

While it is a good thing to amuse old people with dominoes and ping pong, why not concentrate on improving their minds and bodies? Lectures, wood craft, any hobby which requires skill would give the old person something to look forward to the next day. For when the next day comes the average old person has little to think about. It is just another boring day, that's all. But if he is making toys or repairing dolls for youngsters, he is really contributing something of value. Besides, nothing causes degeneration in the aged more than inactivity. They should wear out rather than rust out.

Since the older population is increasing each year and the number of children is diminishing, it will be necessary to make older people more efficient so that the state will not be called upon to give so much help to the elderly.—Malford W. Thewlis, M. D., in Rhode Island Med. J.

The President's Page

The major number of these pages for the past several years have dealt principally with medical economic and legislative matters, particularly concerning attempts of government to regiment the medical profession and hospitals. At this time I feel that a few remarks should be made about a movement, arising within the medical profession itself, which is leading to strict professional regimentation. I refer to the various specialty boards.

I am prompted to consider this subject at this time because of the growing tendency of numerous hospital governing boards, sometimes consisting of laymen and certain government agencies, who are limiting privileges and staff membership to diplomates of the various specialty boards. Membership in certain national medical associations, whose programs deal with the care of the sick and injured, are limited to diplomates. Such discrimination we feel is unwarranted and in many instances it is a false index of ability.

No one would criticize any movement which was aimed at improving the professional care of the sick, and basically this is the aim of the specialty boards. However, we do not feel that there is only one way to develop proficiency in any branch of medicine. The outstanding specialists of the country did not, in the majority of cases, attain eminence by any rigid prescribed program of training. In the past the eminent and capable specialists in the same field have gained their ability by various routes, in part by direction from older colleagues but in the main by self direction; that is, their attendance at clinics, medical meetings, and through constant study and research. The fundamental requirement for any successful practitioner of medicine is that we have, from the very start of his medical education, a vital interest in medicine. Unless the individual has such a vital interest, no amount of exposure to schooling and training, although completed successfully and signified by the granting of diplomas and certificates, will result in a competent or safe physician.

It has been stated that the medical profession is being overboarded, and with this we agree. Each year there is created a new specialty board, which tends further to narrow the practice of medicine. We wonder, if this continues, that in the future there will not be a specialty board for each organ of the body and the patient as an individual and as a whole lost sight of.

For several years there has been great hue and cry about the increasing cost of medical care. The flooding of the country with superspecialists, with their strict and forced adherence to narrower and narrower limits, is definitely adding to this increase in cost. Often the patient must consult several specialists for diagnosis and treatment, which is costly and in some cases useless. This increasing cost, as everyone knows, is the greatest lever of those who would socialize medicine.

With the creation of the specialty boards a wild demand for residencies in the specialties has developed. The clamor has been increased by the large number of discharged physicians from the armed forces in addition to the more recent graduates. Consequently the number of residencies in those institutions approved for training leading to certification have been greatly increased, often beyond the limits of teaching facilities and clinical material available. There are many specialty services in approved hospitals that are supersaturated with residents, assistant residents and voluntary assistants. One can only question the value of training under such circumstances. In some institutions there appears to be only standing room in the resident staff. In contrast to this, there is throughout the country hundreds of established competent practitioners in various branches who are qualified to guide the training of younger men as residents and assistants but are unable to do so because this training would not qualify the younger men to take the board examinations.

In the past, many physicians have spent several years in general practice and then have learned for what specialty, if any, they were suited. These years of general practice previous to specialization certainly developed a broadminded specialist who could view the practice of medicine as a whole and not rigidly limited by his specialty. Today many men who have been in general practice for several years are reluctant to spend a number of years of their lives to fit themselves to be certified as a specialist. We feel that this is a loss to the advancement of the specialities and unjust to such an individual.

In his presidential address before the American Orthopedic Association in 1946, Dr. J. Albert Key, discussing the subject of training of specialists and certification left out the sow's ear and stated as follows: "If you wish to make a silk purse, you must have some silk to start with." To elaborate on this, one could say that if you have the silk there are a multitude of styles of purses to be made, but all of these can be made in one of two ways; the one made by machine, possibly on the assembly line, may or may not result in an acceptable finished product; the other, handmade, may or may not result in an acceptable product, depending on the silk and on those who designed and those who carried out the making of the purse.

W. H. St. Clair

President.

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THANKS, CABELL—AGAIN

In 1942, when the Greenbrier Hotel was taken over by the government for use as an Army general hospital, the West Virginia State Medical Association was forced to look elsewhere for a place for the annual meeting. With less than three weeks to prepare for the convention at some other city in West Virginia, the Cabell County Medical Society immediately extended an invitation to the Council to transfer the meeting to Huntington. It will be remembered that the meeting that year was one of the most successful in the history of the Association.

The 1948 meeting, scheduled for the new Greenbrier at White Sulphur Springs, has again been transferred to Huntington. The change was necessitated by reason of the lack of exhibit facilities next year at White Sulphur Springs. Besides, no suitable auditorium will be available at that time for the evening meetings.

When it became apparent that the meeting would either have to be held at the Greenbrier minus the exhibits (always an integral part of any convention) or moved to some other resort outside the state, the Cabell Society again solved the problem by inviting the Council to schedule the meeting for Huntington, notwithstanding the fact that the 1946 meeting was held in that city.

So, it is Huntington again, and all of the members of the West Virginia State Medical Association will join with us in an expression of appreciation for the action taken by the Cabell Society. It is encouraging to know that the hotels there have given assurance that every effort will be made to provide satisfactory accommodations for the doctors and their wives who attend the annual meeting in that city next May.

THE GENERAL PRACTITIONER'S MEDAL

At a meeting of the board of directors of the American Medical Association, held in Chicago, in September, it was decided to honor some general practitioner "who has served as a family physician and who has in that capacity received the recognition of the community" by awarding to him a special gold medal, to be known as "The General Practitioner's Medal." The first award will be made at the mid-winter meeting in Cleveland, January 5-6, 1948.

Nominations may be submitted to the American Medical Association at Chicago by any state medical association, auxiliary, service club, chamber of commerce, or other similar organization.

The new section on general practice will select five names from the list of doctors nominated, and the board of trustees will then select three to be voted upon by the House of Delegates.

Recognition of the part the general practitioner plays in organized medicine is a step long overdue. We congratulate the members of the board of trustees upon the establishment of this award and for providing for the first presentation at the Cleveland meeting in January.

SOUTHERN MEDICAL IN BALTIMORE

The annual meetings of the Southern Medical Association always draw heavily from the ranks of doctors in West Virginia. Even in Miami last year, a large number of West Virginians were registered. The three-day meeting schduled this year for November 24-26, at Baltimore, will prove to be no exception. Doctors from almost every part of West Virginia plan to be present.

The meeting was originally scheduled for five days, but as Thanksgiving falls on Thursday, November 27, it was thought best to curtail sessions set for November 27-28, and end the meeting on Wednesday.

While we have not seen the program, we do know that the scientific sessions will feature addresses by some of the outstanding doctors in the country. No effort is being spared to provide the usual high class programs for the general sessions and section meetings.

Hundreds of West Virginia doctors are members of the Southern Medical Association, and this state will again send a large delegation to the meeting at Baltimore.

THE POLITICAL DOCTOR

The Wagner-Murray-Dingell compulsory health insurance bill was by-passed by the last session of Congress. In all probability it will be debated and brought to a vote during the next session. It is thus a live issue, whose significance should be thoroughly understood by the American people before Congress convenes again.

Raymond Moley accurately described the measure when he said: "It proposes a vast range of services for practically everyone who wishes free service . . . It covers all sorts of medical, dental, nursing and hospital services. In part, it would be paid for by a tax on wages and on payrolls and, in part, by general taxation. Its ramifications go into state and local public health, into hospitals, private voluntary health associations and the like . . .

"Nothing was ever conceived or devised which would more effectively reduce the medical profession to dependence on the government and tie state and local agencies to the wheels of federal government . . . It is a threat which deserves far more public attention than it has yet been receiving."

No one can accurately determine the financial cost of this proposal. The best estimates place it at between $4,000,000,000 and $6,000,000,000 a year. It would be a very long step toward complete socialization of medicine. It would make doctors employes of the state, and embroil them deep in politics. It would discourage experiment and research, and destroy initiative. And, finally, it would undercut the finest system of medical care existing in the world.—Clarksburg Telegram.

MEDICINE UNDER THE NAZIS

In his revealing book, "The Last Days of Hitler," H. R. Trevor-Roper, a British intelligence officer who was detailed to study the final cataclysmic collapse of Hitler's regime, observes that the quality of medical practice deteriorated enormously under the Nazi dictatorship. Charlatans, quacks and incompetents were given positions of highest importance. Doctors and scientists of the type who once made German medicine famous throughout the world, were relegated to obscurity.

This was an extreme case. But it has been true, to some degree, of socialized or government dominated medicine wherever it has existed. It is one inevitable development when the politician, the bureaucrat or the dictator assumes power over science. The road to advancement lies through political favor rather than through work, achievement and ability. Research and arduous experimentation are discouraged—much quicker rewards are offered to those who please their political bosses. And the real losers, of course, are the people, who are given inferior treatment when they become ill.

These precedents, if nothing else, act to prevent the establishment of political medicine in this country. Such measures as the Wagner-Murray-Dingell compulsory public health bill may be well intended — but, regardless of motive, they would make the practice of medicine a political matter. The bureaucrat would be set above the doctor. The way to completely socialize medicine would be wide open. And the standards of American medicine, which are now the highest in the world, would start downward.—Weston Independent.

STUDENTS WHO FAIL

Failure during medical training is a serious matter. For the student it is often followed by a loss of confidence in himself, perhaps with some embitterment, as well as by natural concern over wasted expense and effort—a concern more than shared by the parent who foots the bill. For the medical school, and ultimately the community, there should be the question of whether or not everything was done that might have helped to avoid such a result.

In the first place, was the student a good candidate for the training vacancy he filled? Was a watch kept for danger signals in his lack of progress, and was there any known source of help with difficulties that the student could use? And when he had to give up, was his failure satisfactorily understood?

Questions of this kind emphasize the unsatisfactory situation in most of our universities today regarding the investigation and treatment of student failures. Proper investigation is essential if the individuals are to be given the best advice. It is also necessary for the light it throws on problems of general importance in the task of enrolling the future members of the profession. Thus, in recent years improved methods of selection have been thought of as a way of preventing the occurrence of failures. While no one would claim that a method of selection, however good, would completely eliminate failure of the student "to make the grade", the careful study of failures would, nevertheless, direct attention to what might be the best grounds of acceptance for training.—British Medical Journal.

SPECIFIC READING DISABILITY

Children who do not learn to read in the first grade should be studied carefully, and if they prove to have specific reading disability, they should be taught to read, write and spell by phonetic and kinesthetic methods.

General practitioners and pediatricians should know enough about the subject to make a provisional diagnosis in cases of specific reading disability that may be brought to them for school failure or problem behavior, and to advise the parents accordingly.—Richard S. Eustis, M. D., in New England Journal of Medicine.

General News

ANNUAL MEETING TRANSFERRED FROM WHITE SULPHUR TO HUNTINGTON

The 81st annual meeting of the West Virginia State Medical Association, originally scheduled for White Sulphur Springs, has been transferred to Huntington and will be held Monday, Tuesday and Wednesday, May 10-11-12, 1948.

Lack of exhibit facilities in 1948 at the Greenbrier Hotel, coupled with the fact that no auditorium will be available for night meetings next year, prompted the Council to make the change.

When the Council met at Charleston September 24, the meeting was scheduled for a week-end, due to the fact that more hotel rooms are available during the latter part of the week. However, the hotels finally agreed to cooperate to the fullest extent in a full three-day meeting beginning on Monday, May 10, and it is probable that more rooms will be available next year than in 1946, when the annual meeting was held in that city.

It is now thought that the meetings and exhibits will have to be separated, as it is doubtful if facilities available will permit meetings to be held and exhibits set up in the same hotel. Participating hotels include the Prichard, Governor Cabell, Frederick, Huntington, and Fifth Avenue.

Detailed plans for the convention will be made public just as soon as the scientific work committee has completed the scientific program.

CHRISTMAS SEAL GOAL $150,000

The West Virginia Tuberculosis and Health Association has set $150,000 as the goal for the sale of Christmas seals during the present year.

PHC SETS MID-WINTER MEETING

The winter meeting of the Public Health Council will be held January 12-14, 1948 at the Daniel Boone Hotel, in Charleston.

PHC REELECTS DR. VEST PRESIDENT

Dr. Walter E. Vest, of Huntington, was reelected president of the Public Health Council at a meeting held in Charleston, October 2. He has been a member of the Council since 1933, and has served as its president since 1937.

The Council confirmed the appointment of Dr. L. A. Dickerson, of Madison, as director of the new Kanawha-Charleston Health Department, and named Dr. Robert P. Fosnaugh, of Parkersburg, as Wood County Health officer, to succeed Dr. C. E. Moorehead, resigned.

The opening of hermetically sealed caskets shipped into West Virginia is prohibited under an order entered at the October meeting. The order provides that caskets containing the disinterred remains of any person dead from any cause and shipped into this state for burial is prohibited, "except as so ordered by a court of competent jurisdiction."

COUNCIL DELAYS ACTION ON NEW VA AGREEMENT AND REVISED FEE SCHEDULE

At a meeting of the Council of the West Virginia State Medical Association, held at Charleston, September 24, the matter of the renewal of the agreement with the veterans administration for out-patient care of veterans was given consideration. At the same time, the Council considered the revised fee schedule submitted to the VA by the State Medical Association's veterans board of review.

These two matters were discussed in connection with a letter from General Paul R. Hawley, chief medical director, concerning the out-patient care of veterans in cities in which there is located a veterans hospital or clinic.

The Council delayed action on the ratification of the contract and approval of the fee schedule and authorized the president to appoint a special committee, to be composed of members of the Council to confer again with General Hawley concerning the out-patient care of veterans in certain affected West Virginia cities.

Subsequently, the chairman, Dr. Andrew E. Amick, appointed as members of the committee, Dr. Thomas L. Harris, chairman, and Drs. J. E. Wilson and James S. Klumpp.

PHC Appointments Approved

The reappointment by Governor Meadows of Dr. W. E. Vest and the appointment of Drs. W. P. Bittinger and Andrew E. Amick as members of the Public Health Council was approved.

Hospital and Medical Service

In a letter read to the Council, written by Harlan Justice, deputy insurance commissioner, to Dr. Wade H. St. Clair, president of the State Medical Association, it was requested that the Council differentiate for the insurance department between hospital service and medical service "so that the state officials might be able to draw a line of distinction between certain specific services to determine whether such services are hospital services in fact or medical services in fact". The request was ordered referred to the Fact Finding and Planning Committee for investigation and report back to the Council.

Conference of County Secretaries

The Conference of County Society Secretaries, an annual event prior to World War II, was ordered resumed in 1948. The conference will be held sometime after January 1.

Section on Urology

The Council approved the creation of a new section on urology and ordered that such approval be reported to the House of Delegates at the annual meeting in 1948. The request for approval was made by Dr. Charles A. Hoffman, of Huntington, secretary of the newly organized "West Virginia Urological Association".

Honorary Members

The following doctors were elected to honorary life membership: J. W. Ferguson, Kenova; C. L. Parks, Fairmont; and F. J. Moore, Killarney.

Health and Accident Insurance

The special committee on group health and accident insurance appointed at the meeting of the Council,

May 11, 1947, submitted a report recommending that the plan presented by Continental Casualty Company be accepted. The plan recommended by the committee was approved by the Council and it was ordered that the matter be submitted to the House of Delegates for action at the next annual meeting.

Vacational Rehabilitation

The appointment by F. Ray Power, director of vocational rehabilitation, of the following doctors as members of the physical restoration standards committee was unanimously approved:

Urology, Thomas G. Reed, Charleston, Chairman; internal medicine, D. C. Ashton, Beckley; surgery, Russel B. Bailey, Wheeling; ophthalmology, Albert C. Chandler, Charleston; public health and general medicine, N. H. Dyer, Charleston; otolaryngology, Sobisca S. Hall, Clarksburg; gynecology, Edwin J. Humphrey, Huntington; psychiatry and neurology, Joseph L. Knapp, Weston; orthopedic surgery, Athey R. Lutz, Parkersburg; radiology, V. L. Peterson, Charleston; and, dermatology and syphilology, Howard T. Phillips, Wheeling.

1948 Meeting at Huntington

The Council was informed that no facilities for exhibits will be available at the Greenbrier Hotel in White Sulphur Springs in 1948, and the feasibility of holding the convention at some nearby resort outside the state was given consideration. Dr. James S. Klumpp, member of the Council and also president of the Cabell County Society, officially extended an invitation to hold the meeting in Huntington, suggesting that dates be fixed for a week end during the later part of May. The invitation was also extended in a letter from Dr. Thomas L. Grove, secretary of the Cabell County Society.

The Council went on record as favoring the change of the place of meeting from White Sulphur Springs to Huntington, in view of the inability of the Greenbrier to provide needed facilities.

Later on, it was ascertained that the hotels in Huntington will be able to provide rooms at the beginning of a week, and the Council, as a result of a poll of the members, fixed Monday, Tuesday, and Wednesday, May 10-11-12, 1948, as the dates of the meeting at Huntington.

The following members attended the meeting: Dr. Andrew E. Amick, chairman; and Drs. Wade H. St. Clair, James S. Klumpp, John P. Helmick, J. E. Wilson, W. C. Swann, A. R. Sidell, N. H. Dyer, J. L. Patterson, T. M. Barber, and Thomas G. Reed; and, Mr. Charles Lively, secretary ex officio. The meeting was also attended by Dr. Thomas Bess, president-elect.

CANCER FUND DRIVE NETS $85,257.92

Final returns from the 1947 drive for funds conducted by the West Virginia Cancer Society show a total of $85,257.92 collected in this state. The financial report of the society shows that twenty-five counties exceeded their assigned quotas.

DR. GEORGE M. LYON ASSUMES DUTIES AS CHIEF OF RADIOISOTOPE SECTION

Dr. George M. Lyon, of Huntington, who was recently released from the Navy with the rank of Captain, has assumed his duties as chief of the radioisotope section of the Veterans Administration. He served as safety advisor and officer in charge of safety and medical elements on "Operation Crossroads" from January 1946 until May, 1947 He was one of the speakers at the annual meeting of the State Medical Association held in Charleston in May, 1947.

The new section on radioisotpes was established within the research and education service of the VA Central Office in order that the benefits of an "atomic era" in medicine might be brought at the earliest possible time to veterans of World War II.

Doctor Lyon will direct the activity of the new section within hospitals operated by the VA. The new chief will assume responsibility for overall coordination and supervision, and a central advisory committee on radioisotopes will make recommendation concerning the general policy, and will establish specific safety measures to be observed by personnel.

The program will be carried out during the current year at six VA hospitals. These hospitals are located at Framingham, Massachusetts; the Bronx, N. Y.; Cleveland; Chicago; Minneapolis; and Los Angeles. As these hospitals are uniquely situated with respect to university groups participating in the medical activities of the VA, and as representatives of these institutions are also engaged in the use of radioisotopes within their university, it is possible to have the program within the individual VA hospital under the responsible direction of professionally qualified personnel.

At each of these hospitals the program will be under the direction of a committee on radioisotopes, which in turn will be a sub-committee of the dean's committee for that hospital. Under this arrangement, the relationship of the radioisotopes program to the universities will be similar to that for medical care and for the educational program within the VA hospitals.

DR. GEO. L. ARMBRECHT MARRIED

Announcement has been made by Mr. and Mrs. Herbert Lincoln Flint, of Wheeling, of the marriage on September 30, 1947, of their daughter, Eleanor Lincoln, to Dr. George L. Armbrecht, of that city.

MILTON HOSPITAL HEAD RESIGNS

Dr. Paul H. Harmon, who has served for nearly three years as medical director of the Morris Memorial Hospital for Crippled Children, at Milton, has resigned in order to devote more time to the practice of his specialty, orthopedic surgery, in Huntington.

According to an announcement by Sol J. Hyman, of Huntington, one of the trustees of the hospital, Doctor Harmon will continue as a member of the staff. No successor has been appointed.

SYSTEM OF PRIORITIES SET UP FOR HOSPITAL CONSTRUCTION IN STATE

The West Virginia state hospital and health center construction plan has been completed by the state department of health and submitted to the surgeon general of the USPHS in accordance with the provisions of the federal hospital survey and construction act. Upon approval of the plan by the surgeon general, the state health department will be in a position to receive and consider applications for financial assistance in hospital and health center construction under the Hill-Burton act. Applicants who qualify under the law and regulations will be eligible for aid in an amount equal to one-third of the total cost of constructing and fully equipping new hospitals or needed additions to existing acceptable hospital facilities.

The plan was approved by the advisory council at a meeting held in Charleston, September 19. The plan is based on the survey of existing hospital facilities in the state and a study of the needs for additional hospital and health center facilities recently completed by the state department of health. It outlines the over-all hospital and health center need in West Virginia and a tentative allocation of new beds and centers to fill the need.

The total calculated need in the state at present construction costs is estimated by the state health department to be approximately $130,000,000 in new construction. The state plan tentatively provides for construction in the total amount of approximately $90,000,000.

Funds Available

Under the hospital survey and construction act, approximately $1,500,000 in federal funds will be available for each of the five years of the life of the act A total of approximately $7,500,000 in federal funds will be allocated to West Virginia over the five-year period. As this amount must be matched two dollars for one dollar, it is possible that a total of $22,500,000 may be expended in this state for hospital and health center construction to apply toward meeting a total estimated need of approximately $130,000,000 and a tentative plan which calls for the expenditure of approximately $90,000,000.

System of Priorities

The state plan includes a system of priorities under which federal funds will be granted to non-profit groups which build hospitals or health centers with such assistance. The priorities for assistance in general hospital construction are as follows:

Areas which have no hospital facilities at all are placed in priority group AA, which includes Whitesville, Petersburg, Grantsville, Point Pleasant, Webster Springs, Winfield, Berkeley Springs, Chester, and Weirton.

Areas which have only hospital facilities which are considered fire hazards, and therefore have urgent need for new facilities, are placed in priority group A, which includes Kingwood, Sutton, Spencer, Charles Town, Ripley, Weston, Madison, and Hinton.

Other areas are placed in priority groups B, C, and D in accordance with the mathematically calculated urgency of the need for general hospital beds in them. Priority group B includes Logan, Mullens, Philippi, Martinsburg, Buckhannon, New Martinsville, Fairmont, Keyser, and Ronceverte.

Priority group C includes Richwood, Marlinton, Charleston, Welch, Parkersburg, Clarksburg, Huntington, Bluefield, Oak Hill, Morgantown, Beckley, Williamson, Elkins, and Grafton. Dr. N. H. Dyer, state health commissioner, has announced that the community place names used in the priority group listings are for the purpose of identifying the areas involved and do not necessarily mean that the new construction must be in the town named to come under the plan.

The federal act requires that each state plan provide for a proportionate development of five categories of health facilities: hospital beds for the care of patients afflicted with chronic diseases, beds for the care of the mentally ill, beds for the care of tubercular patients, general beds for the care of the acutely ill, and public health center facilities. The West Virginia plan tentatively provides that approximately 56 percent of the funds expended under the act is to be used for the construction and equipment of general hospital beds. The remaining 44 percent is to be spread over the other four categories

General Hospital Beds

General Hospital beds are tentatively allocated to the twelve hospital service regions as follows: Wheeling Region, 248; Morgantown, 50; Fairmont, 178; Clarksburg, 175; Martinsburg, 235; Parkersburg, 153; Huntington, 400; Charleston, 919; Bluefield, 220; Beckley, 179; Elkins, 132; Philippi, 212; and interstate, 207.

Doctor Dyer has emphasized the fact that the state health department is merely the administrative agency for the fulfillment of the requirements of the federal act in the allocation and payment of federal funds made available to West Virginia. The state health department will not build hospitals. The funds will be granted to non-profit groups which plan and contract for the building of hospitals under the state plan.

Application may be made to the state department of health for funds as soon as the West Virginia plan is approved by the Surgeon General of the USPHS. The plan is tentative in that the law requires its review annually, and it may be amended at any time to take cognizance of changing conditions of demonstrated need.

POLIO ADVISORY COMMITTEE MEETS

The organization meeting of the State Advisory Committee to the National Foundation for Infantile Paralysis is scheduled for Charleston, October 23.

The committee is composed of Drs. J. C. Pickett, Morgantown; Howard A. Swart and Jack Basman, Charleston; Russell C. Bond, Wheeling; Cecil O. Post, Clarksburg; Frank J. Holroyd, Princeton; L. Rush Lambert, Fairmont; and Mr. Charles Lively, Charleston, member ex officio.

AMA DIRECTORY INFORMATION CARD

Preparations are now being made to publish the new, Eighteenth Edition of the American Medical Directory. The last edition of the Directory was issued late in 1942. Since that time, it has been impossible to publish a new edition because of wartime restrictions and the shortage of paper and labor.

About November 15, a directory card will be mailed to every physician in the United States, its dependencies, and Canada, requesting information to be used in compiling the new Directory. Physicians receiving a card should fill it out and return it promptly whether or not any change has occurred in any of the points on which information is requested. It is urged that physicians also fill out the right half of the card, supplying information which will be used exclusively for statistical purposes.

The Directory is one of the most important contributions of the American Medical Association to the work of the medical profession in the United States. In it, as in no other published directory, one may find dependable data concerning physicians, hospitals, medical organizations and activities. It provides full information on medical schools, specialization in the fields of medical practice, memberships in special medical societies, tabulation of medical journals and libraries, and, indeed, practically every important fact concerning the medical profession in which anyone might possibly be interested.

If any physician fails to receive one of the Directory Information cards by December 1, he is requested to write at once to the Directory Department, requesting that a duplicate card be mailed.

STATE DOCTORS TAKE PG COURSE AT MCV

The postgraduate course in heart diseases offered at the Medical College of Virginia in Richmond, September 8-20, attracted twenty-seven doctors from Virginia, West Virginia, North Carolina and Florida.

The course, sponsored by the department of continuance education, and directed by Drs. Reno Porter and Nathan Bloom, was the first such course to be offered at the Medical College of Virginia. It covered all phases of heart diseases, with an emphasis on new advances in diagnosis and treatment, and was conducted by members of the medical staff of the college.

JAYCEES SPONSOR LIVE BLOOD BANK

A "Live Blood Bank" is being sponsored by the Charleston Junior Chamber of Commerce, and a list of both free and professional donors has been prepared and placed in the hands of the local physicians' and nurses' bureau.

In a letter addressed by Bert Wolfe, president of the Jaycees, to the doctors and hospitals in the Charleston area, it is stated that donors have been typed and that the list is now large enough so that response can be made to calls from over the community.

MEDICAL DEAN'S COMMITTEE AT MCV

A Medical Dean's Committee has been appointed by the Alumni Association of the Medical College of Virginia for the purpose of "coordinating the interests of the Alumni Association, and for the advancement of the Medical College of Virginia." The appointments were made by Dr. H. L. Claud, president of the Alumni Association, at the request of Dr. Harvey B. Haag, dean of the School of Medicine.

The committee is composed of Drs. J. Morrison Hutcheson, Richmond, chairman; John M. Emmett, Clifton Forge, Virginia; Waverly R. Payne, Newport News, Virginia; Walter E. Vest, Huntington, West Virginia; and John F. Whitaker, Kingston, North Carolina.

ANNUAL UROLOGICAL ESSAY CONTEST

The American Urological Association offers an annual award of $1000.00 (first prize, $500.00, second prize, $300.00 and third prize, $200.00) for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, in Boston, May 17-20, 1948.

Essays must be in the hands of the secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee, before March 1, 1948.

STATE DOCTORS NAMED FELLOWS BY ACS

The following is a list of West Virginia doctors accepted into fellowship in the American College of Surgeons at the 33rd Convocation held in New York, September 12, as the final event of the Clinical Congress:

William H. Allman, Clarksburg; Robert C. Bock, Charleston; Charles E. Davis, Jr., Beckley; William E. King, Morgantown; John E. Lutz, Charleston; Theodore P. Mantz, Charleston; John S. Meier, Wheeling; Seymour W. Meyer, Elkins; Joseph P. Seltzer, Charleston; and James K. Stewart, Wheeling.

AMERICAN ACADEMY OF ALLERGY

The annual convention of the American Academy of Allergy will be held December 15-17, 1947 at the Hotel Jefferson, in St. Louis. Doctors interested in allergic problems are invited to attend the sessions as guests of the Academy. There will be no registration fee. The program has been arranged to cover a wide variety of conditions where allergic factors may be important. Papers will be presented dealing with the latest methods of diagnosis and treatment as well as the results of investigation and research. Round table conferences will be held on Monday afternoon, December 15, 1947. Advance copies of the program may be obtained by addressing the chairman of the committee on arrangements, Charles H. Eyermann, M. D., 634 North Grand Boulevard, St. Louis 3, Missouri.

PARKERSBURG HOST TO HEART ASSOCIATION

Dr. A. Carlton Ernstene, associate of the department of cardiology of the Cleveland Clinic was the guest speaker at a special dinner meeting of the Academy of Medicine of Parkersburg, held in the American Legion Home, in that city, October 2. His subject was, "Curable Types of Heart Disease." His address followed an afternoon meeting of the West Virginia Heart Association, which included case presentations and roundtable discussions. Several members of the Association from various parts of the state were present at the meeting and the dinner.

The following committee on arrangements had charge of the meeting and the banquet: Dr. J. L. Wade, chairman, and Drs R. H. Wharton, A. C. Woofter, Oliver Brundage, Robert Biddle, Robert Lincicome, and D. J. Brown.

Besides Doctor Wharton, who is secretary-treasurer of the West Virginia Heart Association, the meeting was attended by Dr. Fred Whittlesey of Morgantown, the president, and A. Spates Brady, of Charleston, vice president.

GRADUATE FELLOWSHIPS AWARDED

Graduate fellowships in health education, financed by the National Foundation for Infantile Paralysis, have been offered 25 men and women in 15 states, the District of Columbia and Alaska, according to an announcement made by Surgeon General Thomas Parran of the U. S. Public Health Service.

In addition to nine months of academic study at an accredited school of public health, each fellow will have three months' field training in a health department under supervision of a public health instructor. Of the 21 persons who have already accepted the award, 17 will receive the master of public health degree and four will receive the master of science in public health degree, following satisfactory classroom work and field training

The award winners, including four veterans of World War II, were chosen from more than 340 candidates who submitted applications to the committee on training of public health personnel of the USPHS.

PINECREST HEAD RESIGNS

Dr. George E. Gwinn, of Beckley, has resigned as superintendent of Pinecrest Sanitarium, state-owned tuberculosis institution in that city. In a statement accompanying the announcement, Doctor Gwinn said that he is retiring because of an "imperative need for complete rest."

Dr. Hugh S. Edwards, of Beckley, member of the medical staff at Pinecrest, has been named acting superintendent of the sanitarium.

Doctor Gwinn has been a member of the staff at Pinecrest for over fifteen years, and was named superintendent in 1944 to succeed Dr. E. H. Hedrick, who was elected that year as representative in Congress from the sixth congressional district.

RELOCATIONS

Dr. P. C. Soulsby, of Eskdale, has moved to St Albans where he will continue in general practice.

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Dr. C. E. King, of Petersburg, is taking a postgraduate course in dermatology at the University of Illinois School of Medicine in Chicago.

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Dr. A. B. McCoy, of Boston, has located in Petersburg for the general practice of medicine.

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Dr. Paul C. Spangler, who has been located at Morganton, North Carolina, for several months, has returned to this state and is located at Princeton

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Dr. Harold W. Ward, formerly of Sutton, who has been on the staff at the Veterans Hospital at Huntington, has moved to Charleston, where he will continue in general practice. He has offices at 1109 Lee Street.

1947 EDITION OF PARERGON

Parergon (work by the side of work) is Mead Johnson & Company's picture book of artistic works by physicians.

The current edition is a book of 208 pages and shows 1100 examples of creative art by contemporary physicians.

This book is available without charge only to physicians upon request of Mead Johnson & Company, Evansville 21, Ind., U. S. A.

DR. CLEMENTS RECEIVES AWARD

Dr. Bernard S. Clements, of Matoaka, has been cited by the National Coal Association and a suitable award presented to him for saving the life of a miner at the risk of his own life, three years age.

William Sperry, an employee of the American Coal Company, became entangled in a cutting machine in the Crane Creek No. 6 mine, and Dr. Clements crawled 300 feet on his hands and knees and amputated the miner's leg, and is credited with saving his life.

Mr. Sperry recovered satisfactorily from the operation and now operates a grocery store at Windmill Gap in Mercer County.

MASS X-RAY SURVEY AT CLARKSBURG

West Virginia's first mass community x-ray survey was conducted in Clarksburg during the period from September 22 to October 10. All three photofluorographic units of the state health department were used. Before the survey was started, all school children in Harrison County were given tuberculin tests, and all positive reactors were brought to Clarksburg for x-ray. The program was under the supervision of Arthur B. Upton, county superintendent of schools, and Miss Madge Duncan, county school nurse.

Tests were given 11,777 children. There were 2045 reactors, or 17.4 percent. A total of 15,890 persons were x-rayed, including the positive reactors. Of this number 275 were recommended for retake.

Tabulation of the final results will be completed and made public within the next few weeks.

RURAL HEALTH CONFERENCE NOV. 20

The first Rural Health Conference in West Virginia, sponsored by the West Virginia State Medical Association, will be held at Jackson's Mill, November 20. The Committee on Rural Health will be in charge of the meeting. This committee is composed of Drs. Ira F. Hartman, Buckhannon, chairman; E. H. Hunter, Webster Springs; O. V. Brooks, Moorefield; J. J. Jenkins, Farmington; and W. E. Myles, White Sulphur Springs.

Dr. H. B. Mulholland, of Charlottesville, Virginia, regional chairman of the American Medical Association Committee on Rural Medical Service, will be present at the meeting. Farm organizations will be invited to send representatives and it is expected that representatives of the state health department, West Virginia University School of Medicine, the extension service at the University, and medical and hospital service plans, will also attend.

While the program has not yet been completed, it is probable that the conference will begin at 10:30 o'clock in the morning and adjourn late in the afternoon.

DR. JAMES R. BLOSS HONORED

Dr. James R. Bloss, of Huntington, was elected president of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, at the annual meeting recently held at Hot Springs, Virginia.

Doctor Bloss, who has served as secretary of the Association for the past thirteen years, will assume his new duties in 1948. He will succeed Dr. R. D. Mussey, of the Mayo Clinic, Rochester, Minnesota.

WOMAN'S AUXILIARY AT HUNTINGTON

The 24th annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association will be held at Huntington May 10-12, 1948, conjointly with the 81st annual meeting of the State Medical Association.

Mrs. F. C. Chandler, of Bridgeport, is president of the Auxiliary, and Mrs. W. E. Hoffman, of Charleston, is president elect.

STATE SOCIAL HYGIENE SOCIETY PROPOSED

At a meeting held in Charleston, September 25, the feasibility of the organization of a state social hygiene society was discussed, and a committee appointed to study the matter further and report at another meeting which will probably be held in December. The committee is composed of Mrs. Louise Blanchard, Huntington, chairman; James B. Deck, Beckley; Robert K. Powell, Fairmont; and Dr. Andrew P. Sackett, Charleston.

DR. SAYERS ACCEPTS UMW POST

Dr. Royd Ray Sayers, who has been connected with the United States Public Health Service for several years, has been named chairman of the medical board created by the trustees of the United Mine Workers Welfare and Retirement Fund. Trustees are John L. Lewis, chairman; Ezra Van Horn, Cleveland, operator representative; and Thomas Murray, New York, financier and engineer.

SECOND ANNUAL AAPS ESSAY CONTEST

The Association of American Physicians and Surgeons has announced its second annual essay contest for junior and senior public and parochial high school students. The subject for the second contest is "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." The capital prize is $1000, and there will be five other prizes. It is desired that all state and local medical societies sponsor local competition, with prizes to be awarded by each county society and each state furnishing prizes for the three contestants submitting the best essays.

The three winners from each county society will compete for state awards, and the best three from each state will then be submitted to AAPS for entry in the national contest.

The contest will open February 1, 1948. A small packaged library with bibliography may be obtained from the AAPS, 360 North Michigan Avenue, Chicago 1, Illinois. The packaged library furnished will not be comprehensive, as it is the desire of the AAPS that students use their initiative in doing research for their essays, which will be limited to 1500 words.

All essays must be submitted on or before April 15, 1948. Medical societies and students from thirty-one states participated in the 1947 contest.

Dr. George F. Grisinger, of Charleston, has again been named a member of the AAPS essay contest committee.

COMMITTEES SCHEDULE MEETINGS

A meeting of the Scientific Work Committee is being held at Parkersburg as this issue of the Journal is on the press. The program for the three-day meeting at Huntington, May 10-12, will be completed just as soon as possible. Only tentative arrangements could be made sooner because of the uncertainty concerning the date and place of the 1948 meeting.

Dr. Russell B. Bailey, of Wheeling, is Chairman of the committee and the other members are Drs. W. W. Point, of Charleston, and Geo. F. Evans, of Clarksburg.

Two other important committees have scheduled meetings for October. A meeting of the Fact Finding and Planning Committee was called by the chairman, Dr. D. A. MacGregor, of Wheeling, for October 19, at Charleston, and the Mental Hygiene Committee, of which Dr. O. B. Biern, of Huntington, is Chairman, is meeting at Charleston on October 26.

SICKNESS STATEMENTS FOR RAIL WORKERS

Doctors throughout the nation are being asked to furnish medical evidence to substantiate the claims of railroad workers who may now draw cash sickness benefits under the Railroad Unemployment Insurance Act. The Railroad Retirement Board pointed out that unless an application is mailed not later than the seventh day after the first day of sickness claimed, it may not be received within the legal time limit for filing applications. As a result, the employee may lose benefits for one or more days. Doctors are asked either to return each completed statement of sickness to the patient, or mail it promptly to the office of the board to which it is addressed.

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SEARLE

Research in the Service of Medicine

County Society News

BARBOUR-RANDOLPH-TUCKER

Dr. Andrew E. Amick, of Lewisburg, was the guest speaker at the regular quarterly meeting of the Barbour-Randolph-Tucker Medical Society, held at the Coach and Four, near Elkins, September 25, 1947. Doctor Amick discussed whooping cough, stating that this disease results in the deaths of more infants each year than diphtheria, scarlet fever, and infantile paralysis combined. He emphasized the value of immunization as a means of protection against this disease.

At a short business meeting held preceding the scientific program, Dr. C. E. Johnson, of Parsons, was elected to membership in the society.

DONALD R. ROBERTS, M. D.,
Secretary.

* * * *

CABELL

Dr. Emmerich von Haam, professor of pathology at Ohio State University School of Medicine, Columbus, was the guest speaker at the regular monthly meeting of the Cabell County Medical Society held at the Prichard Hotel in Huntington, October 9 His subject was, "Pathology in Nephritis".

At a business session following the scientific program, Dr. Carl A. Hoffman was elected president of the society to succeed Dr. James S. Klumpp. Dr. Thomas G. Folsom was elected vice president, Dr. Francis Coffey, treasurer, and Dr. Thomas L. Grove was reelected secretary. The new officers will assume their duties January 1, 1948.

THOMAS L. GROVE, M. D.,
Secretary.

* * * *

FAYETTE

Two clinical pathological cases were presented by Dr. W. E. Bundy, of Oak Hill, and Dr. T. Kerr Laird, of Montgomery, at the regular monthly meeting of the Fayette County Medical Society, held at the Hotel Hill in Oak Hill, October 7. The next meeting of the Society will be held at the Tech Cafe, in Montgomery, November 4. The guest speaker will be Dr. John Moyer Meredith, neurosurgeon of Richmond, whose topic will be "Intervertebral Disc Lesions."

JOE N. JARRETT, M. D.,
Secretary.

* * * *

KANAWHA

Dr. Emil Novak, associate professor of gynecology at the Johns Hopkins University, Baltimore, presented a paper on the therapeutic use and abuse of endocrines at the regular monthly meeting of Kanawha Medical Society, held October 14, at the Hotel Daniel Boone in Charleston.

THEODORE P. MANTZ, M. D.,
Secretary.

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Exactly as it was during pre-war! It has not been changed in any way because, try as we might, we could not improve upon it! Originated by us in 1938 to meet the special requirements of doctors, the tremendous sales and the enthusiastic statements of its users, prove that it is far and away the finest and most efficient of all doctors' files. It takes care of all of a doctor's records most compactly, efficiently and economically. The Efficiency File is made of heavy gauge steel—is finished in olive green baked enamel for enduring beauty and for harmony with all your other office furniture and fixtures. It is 18⅜" wide, 16" deep, 40" high and is a substantial and impressive piece of furniture. The hardware and fittings are solid brass; the locker compartment has a paracentric key lock—a real lock and key. Because the Efficiency File will easily last 50 or more years it costs only a mere dollar a year to own.

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LOGAN

Dr. W. B. MacCracken, orthopedist, of Huntington, was the guest speaker at the regular monthly meeting of the Logan County Medical Society, held October 8, in the club rooms of the Aracoma Hotel, in Logan. He presented an interesting paper on the various aspects of low back pain with differential diagnosis and treatment. X-ray films were used to illustrate the various phases discussed.

At the business session held after the scientific program, Dr. W. S. Newlin, of Lorado, was elected to membership in the society.

I. M. KRUGER, M. D.,
Secretary.

* * * *

MERCER

Dr. Elam C. Toone, Jr., associate professor of medicine at the Medical College of Virginia, Richmond, was the guest speaker at the regular monthly meeting of the Mercer County Medical Society, held at the West Virginian Hotel, in Bluefield, September 18. His subject was the "Diagnosis and Treatment of Rheumatoid Arthritis and Rheumatoid Spondylitis." Several guests were present from McDowell County and Tazewell County, Virginia.

FRANK J. HOLROYD, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

A joint meeting of the Potomac Valley Medical Society and the Potomac Valley Dental Society was held September 26, 1947, at Romney. Dr. Sterling Mead, past president of the American Dental Association, was the guest speaker. His subject was, "Diseases of the Mouth."

Dr. John W. Barnaby, surgeon, of Baltimore, was the guest speaker at the regular monthly meeting of the Potomac Valley Medical Society held at Burlington, October 8, 1947. His subject was, "Benign Tumors of the Stomach."

E. A. COURRIER, M. D.,
Secretary.

* * * *

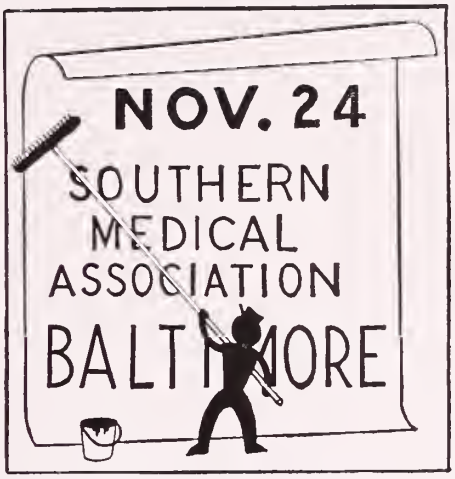
RALEIGH

Dr. Vernon L. Peterson, of Charleston, was the guest speaker at the regular monthly meeting of the Raleigh County Medical Society, held September 25, at the El Chico Cafe, in Beckley. He discussed the diagnosis of bronchiectasis.

At a short business session held preceding the scientific program, Dr. J. W. Newman, of Lillybrook, and Dr. Alfred Joseph, of Montcoal, were elected to membership in the society. The meeting was attended by forty members and guests.

W. FRED RICHMOND, M. D.,
Secretary.

The Bureau of Narcotics has given permission to physicians to use the new narcotic, metopon hydrochloride, in the treatment of cancer. The pain-killing drug is purported to have "certain advantages" in cancer treatment.—R. N.



AN OUTSTANDING MEDICAL MEETING — the Annual Meeting of the Southern Medical Association in Baltimore November 24-26. In the ten general clinical sessions by Baltimore physicians and surgeons, the twenty-one sections and the scientific and technical exhibits, every phase of medicine and surgery will be covered—**the last word in modern, practical, scientific medicine and surgery.** Addresses and papers by distinguished clinicians not only from the South, but from many parts of the United States.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Baltimore a scientific program and recreational facilities to challenge his every interest and make it worth-while for him to attend.

ALL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $5.00 include the Southern Medical Journal, a journal valuable to physicians of the South, one that each should have on his reading table.

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M. G. STEMMERMANN, M. D., Medical Director

Woman's Auxiliary

ESSAY CONTEST PLANS

The Woman's Auxiliary to the West Virginia State Medical Association is completing plans for its essay contest in the high schools of the state. The subject is. "The Proposed Cost and Implications of Socialized Medicine." The first prize is $500; the second, $250; and the third, $100. In addition, a prize of $25 will be awarded to the winner in each county.

Essays will be limited to 1500 words, and any senior high school student in West Virginia may compete. Each high school is to evaluate manuscripts prepared by the students, and the manuscripts selected will be submitted to a county judging committee. The winning essay will be forwarded to the state judging committee, which will select the winners of the first, second and third prizes. All essays must be original and must include a bibliography of source material.

Manuscripts must be selected by the high schools by March 1, 1948; by the county judges by April 1; and by the state judges by May 1.

Source material has been received by Mrs. D. E. Greeneltch, of Wheeling, immediate past president, who is in charge of the essay contest, and this material will be mailed upon request, without charge.

Additional Funds Needed

The Auxiliary needs $800 to complete the budget set up for the contest. The total to be set aside is $2350. Of this amount, over $1500 has been pledged and placed in the hands of Mrs. Ross Daniels, of Beckley, auxiliary treasurer. Auxiliary officials urge all county presidents to take immediate action to try to obtain funds still needed to make the essay contest a success.

Mrs. Greeneltch has requested that all funds collected be sent to the treasurer without delay, and that a report be made to her concerning any additional amount that may be collected.

According to Mrs. Greeneltch, Ohio County has donated $486, Marion County in excess of $400, and the new Barbour-Randolph-Tucker Auxiliary, $105. The list of donors is incomplete, but full report will be made when the contest gets under way.

CABELL

The regular monthly meeting of the Cabell County Auxiliary was held October 14 at the residence of Mrs. J. Russell Cook, with the officers serving as hostesses.

The following projects were approved for 1947-48: Party for crippled children during the Holidays; dressing dolls for children; and movie party for underprivileged children.

Short addresses were delivered by Mrs. F. C. Chandler of Bridgeport, state president, and Mrs. U. G. McClure, of Charleston, immediate past president. The meeting was attended by over fifty members and guests.

MRS. J. R. BROWN, Secretary.

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Correspondence

WEST VIRGINIA UNIVERSITY
Morgantown, W. Va.

The School of Medicine
University Health Service

9 October, 1947

Mr. Charles Lively, Executive Secretary
West Virginia State Medical Association
Atlas Building
Charleston, West Virginia

Dear Mr. Lively:

The West Virginia University Health Service has funds for an Assistant Physician in the Health Service. Up to the present time we have been unable to fill this position, and I am writing to ask your help in finding a qualified physician. If you know of any we would be pleased to hear from you.

The duties of the physician are the furnishing of general medical care in the University Health Service. The physician should be licensed in West Virginia, or be qualified to obtain West Virginia licensure. The amount of the salary would depend on the training and qualifications of the applicant. The position can be considered a permanent one, but if an applicant wished to stay only for a few months he would be considered. This position is especially desirable for a man recently out of military service who wishes to start on a residency and has no present place to practice.

Very truly yours,
(Signed) J. J. Lawless, M. D.
Director University Health Service

JJL:HO

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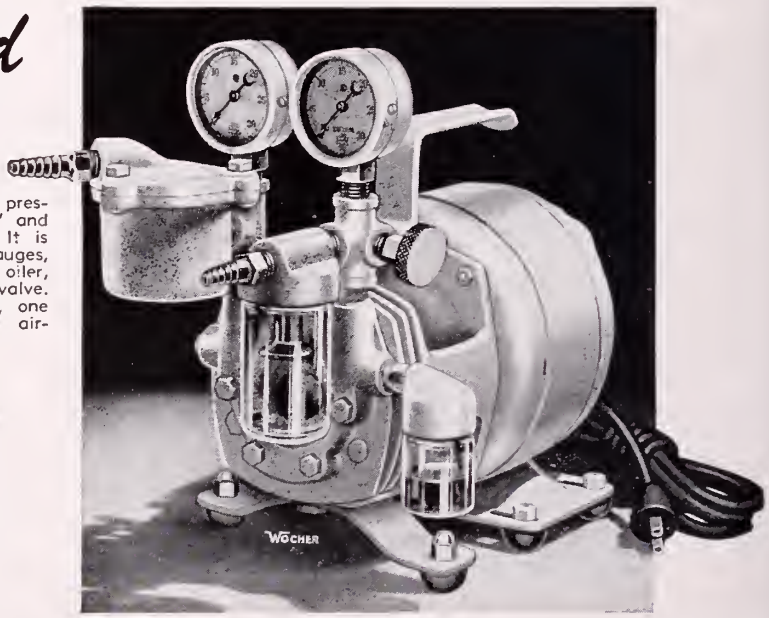

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VETERANS ADMINISTRATION
Regional Office
824 Fifth Avenue
Huntington 1, West Virginia
October 7, 1947

Mr. Charles Lively,
Executive Secretary
West Virginia State Medical Association
Charleston 24, West Virginia

Dear Mr. Lively:

We have just been notified that the following factor in determination for prima facie eligibility has been rescinded effective October 15, 1947:

"When application for treatment of hospitalization is made within two years from date of discharge from a period of war service for any condition (including chronic diseases) favorable consideration may be given upon a detailed statement of the claimant as to the nature of the injury or disease suffered in service and containing evidence warranting a tentative conclusion that the condition requiring treatment had its origin or aggravation in service."

Please acknowledge receipt of this notification.

Very truly yours,

(Signed) Leo F. Steindler, M. D.
Chief Medical Officer.

Obituaries

WILLIAM HENRY BURGESS, M. D.

Dr. William Henry Burgess, 80, of Williamson, died October 7, 1947, following a heart attack at Orlando, Florida, where he had resided for several months.

Doctor Burgess was born in 1867 near St. Albans. He was educated in the public schools and received his M. D. degree at the Louisville Medical College in 1907, being licensed to practice in West Virginia that same year. He located at Matewan, moving to Williamson a short time afterwards where he resided until he went to Florida. He was associated with his brother, the late Dr. Thomas D. Burgess, who established the first hospital between Huntington and Welch.

Doctor Burgess was survived by his widow, the former Mary Ella Byars of Simpsonville, Kentucky, and one sister, Miss Frances Burgess, of Huntington.

He was a member of the Mingo County Medical Society, the State Medical Association, and the American Medical Association.

* * * *

OKEY WARREN COPLIN, M. D.

Dr. Okey Warren Coplin, 71, of Elizabeth, died of cerebral hemorrhage at a hospital in Parkersburg, October 6, 1947.

Cook County Graduate School of Medicine

Announces Continuous Courses

SURGERY—Two Weeks Intensive Course in Surgical Technique Starting November 17 and December 1.

Four Weeks Course in General Surgery Starting November 3.

Two Weeks Surgical Anatomy & Clinical Surgery Starting November 17.

Two Weeks Surgical Pathology Every Two Weeks.

DERMATOLOGY & SYPHILOLOGY—Two Weeks Clinical Course Every Two weeks.

ROENTGENOLOGY—Course I Available the First Monday of Every Month. Course II Available the Third Monday of Every Month.

CYSTOSCOPY—Ten Day Course in Cystoscopy December 1.

PEDIATRICS—Clinical Course Every Two Weeks.

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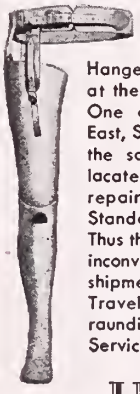

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2. *Albutest*

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Tablet, *no heating* method for quick qualitative detection of albumin. Bottles of 36 and 100.

3. *Clinitest*

Tablet, *no heating* method of detection of urine-sugar.

Laboratory Outfit (No. 2108).

Plastic Pocket-size Set (No. 2106).

Clinitest Reagent Tablets (No. 2101) 12x 100's for laboratory and hospital use.

All products are ideally adapted to use by physicians, public health workers and in large laboratory operations.

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ELKHART, INDIANA

Doctor Coplin was born June 2, 1876 in Doddridge County. He received his early education in the public schools and later attended Glenville State Teachers College. After teaching in the county schools for several years, he enrolled at the Starling Medical College in Columbus. He was licensed to practice medicine in West Virginia in 1902, and located at Elizabeth, where he engaged in general practice until his death. He served for several years as county health officer for Wirt County.

Doctor Coplin was always active in public life in his home community and had served two terms as sheriff of Wirt County. His wife, the former Claudia McGee, died December 4, 1946.

He is survived by three sons, Holley, of Palestine; Harry, of Elizabeth; and Dr. Robert W. Coplin, of Huntington.

* * * *

GEORGE DELMONT JEFFERS

Dr. George Delmont Jeffers, 82, of Parkersburg, died of heart disease at a hospital in that city, October 4, 1947. He had retired from practice several months ago on account of illness.

Doctor Jeffers was born at Coolville, Ohio, August 10, 1865, son of the late Lewis H. and Susan Page Jeffers. He moved with his parents to Wood County in 1870. He received his early education in the public and private schools and at Keiser College.

In 1887, he began the study of medicine under Dr. J. S. Casto, enrolling at the University of Louisville School of Medicine, where he received his M D. degree in 1889. After his graduation, he located at Kingman, Kansas, where he engaged in general practice until 1898, when he returned to Louisville for postgraduate work. He moved to Parkersburg in 1899 where he continued in general practice until a few months ago.

Doctor Jeffers became a member of the West Virginia State Medical Association in 1902 and helped organize the Little Kanawha and Ohio Valley Medical Associations at the meeting of the State Medical Association held that year. During World War I, he served as president of the medical advisory board for district No. 2.

Doctor Jeffers served as a member of the Council of the State Medical Association from 1911 until 1924. He was president of the State Medical Association in 1925. He had also served as president of the Academy of Medicine of Parkersburg. In 1941 he was elected an honorary lifetime member of his local society, the State Medical Association and the American Medical Association. He is survived by a daughter, Miss Ruth Carlton Jeffers, of Parkersburg.

* * * *

GEORGE ROBERT MILLER, M. D.

Dr. George Robert Miller, 76, of Fairview, died of congestive heart failure at a hospital in Fairmont, September 18, 1947. While he had been ill for a few days his death was unexpected.

Doctor Miller was born at Upton, West Virginia, and received his academic training at Fairmont Normal School. He graduated in medicine from Eclectic Medi-

cal Institute, Cincinnati, in 1901, and interned at Cincinnati General Hospital. He was licensed in West Virginia in 1900.

Upon the completion of his internship, he located at Barracksville in 1901, but moved the following year to Fairview, where he continued in general practice until his death.

Doctor Miller was always prominent in medical affairs in his home community and the state. He had served as president of the Marion County Medical Society and as a member of the professional relations committee. He also served a term as a member of the board of education of his home county. He was an honorary member of the Marion County Medical Society, the State Medical Association, and the American Medical Association. He is survived by one daughter, Mrs. J. A. Bartel, of West Liberty; three sons, William E. Miller, of Fairview; Byron and G. Robert Miller, of Fairmont; and two brothers, J. Clark Miller and Dr. T. Homer Miller, both of Fairmont.

COLLECTING

Somebody once wrote in Latin a bit of advice to doctors concerning collecting. Translated, it means, "Take your pay while the patient is suffering, because when he is well, he is not willing to pay." Let it be said quickly, to the credit of most patients, that this advice is not often necessary.

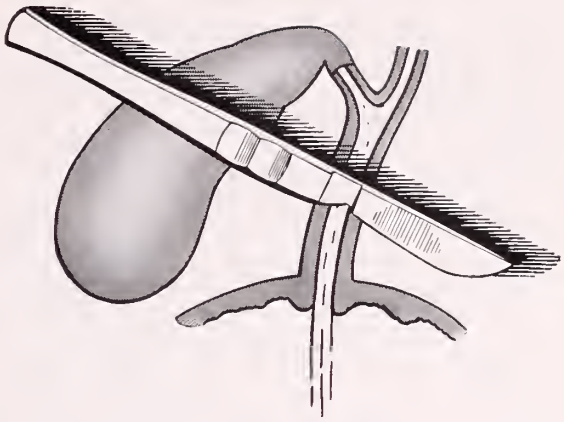
There are some patients, though, who seem to find the paying of a bill a great nuisance, once they are well; although, when ill, these same patients have expressed how much they will be indebted to the doctor, if only he helps them to be up and about again.

When the patient was sick, the doctor seemed like an angel of mercy and the patient, now well, desires that the doctor would continue to be an angel, without earthly needs. It probably is a sort of drop to earth, for the patient, but the doctor was having a hard job all the time, a job more difficult than log-rolling. He was just gracious enough to conceal the problems, the hazards, and his own agony.

Living, at times almost above the level of the earth, has a way of becoming matter-of-fact. There is that ever-present demand for food and clothing and shelter. If only these items could be shoved out of call, there would be no need for the prosaic job of collecting and the practice of medicine could remain a humanitarian service with no strings attached.—Pauline Dinkins, M. D., in Medical Woman's Journal.

PREPARATION FOR RETIREMENT

Public health officers could render a great service to society by leading a campaign for extending the useful life of the worker, whether in business, industry, or the professions. Another approach to a solution of the psychologic problem of retirement, at least, would be to teach the aging individual to prepare for retirement by cultivating enough outside interests to keep his mind occupied when he is no longer employed. Still another possible approach would be the establishment of counseling centers for older people similar to the ones founded by Dr. Lillien J. Martin in San Francisco in 1929, and by Dr. George Lawton in New York. An important function of such centers would be to provide interests and possibly employment for persons who have been retired from their jobs.—Wingate M. Johnson, M. D., in Geriatrics.



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ELKHART, INDIANA

Diabetes Abstracts

The following information is believed to be of interest in view of the fact that it discusses the practicability of various laboratory procedures which have been used or advocated in the study and control of diabetes. No attempt is made to give in detail the technique of each test, as it is available in all standard manuals dealing with blood chemistry.

BLOOD SUGAR DETERMINATIONS

These determinations may be made in a laboratory of any size. Most of the solutions employed are stable. For all practicable purposes the colorimetric method of Folin is to be preferred because of its simplicity. The procedure may be found in any standard reference book. Blood sugar determinations need not be made in the home or office as oxalated blood may be collected by the physician and sent directly to the laboratory. If there is to be any delay in the sending of the blood, a preservative of sodium fluoride and thymol should be used to prevent bacterial and enzymatic hydrolysis of the glucose. These preservatives will keep the blood for 24-48 hours without any appreciable loss in glucose. It should be pointed out here that the above described method for blood sugar determination also determines with the glucose other reducing substances of the blood. These substances account for less than 10% of the total reducing substances of the blood and do not interfere with the average interpretation of blood sugar levels.

Micro-methods of blood glucose are in general rather difficult and are open to serious technical errors. Since the standard Folin method may be used on 1 cc. or less of blood, there seems to be little need for a micromethod of determination, in the control of the average diabetic.

PLASMA CARBON DIOXIDE COMBINING POWER
(Alkali Reserve)

This test is not difficult and may be made in a very few minutes by the average technician if the Van Slyke and Cullen method is used. This requires a Van Slyke apparatus but very few solutions, all of which are stable. The technician should always be sure that the apparatus is not leaking. The determination is practicable only in the laboratory but blood may be collected and transported for some distance if collected under oil to prevent loss of carbon dioxide to the air with resulting passage of the chloride ion through the cell membrane into the plasma.

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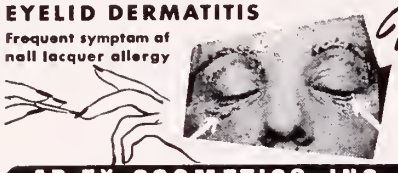

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Titrametric methods for carbon dioxide combining power are quite difficult to use and subject to considerable error in the hands of the average technician.

BLOOD HYDROGEN ION DETERMINATION (pH)

The determination of blood pH as a routine laboratory procedure is not recommended. There is considerable deviation from normal in the blood carbon dioxide combining power before any change occurs in the blood pH. The average physician is accustomed to evaluating acidosis by the alkali reserve. Because of these facts the determination of blood pH is primarily of academic interest.

There are two methods in use. The first of Marriott et al. uses a coloimetric comparison of the dialisate from blood with phenol red as the indicator. The second involves the direct determination of the blood pH employing a Beckman pH meter. The first method is tedious while the second requires familiarity with the apparatus and the apparatus itself is quite expensive.

BLOOD ACETONE

Blood acetone determinations are not considered necessary or practicable. The ketone level of the blood does not rise to any great extent before excretion by the lungs and kidneys occurs. An extremely sensitive test for blood acetone levels above normal may be made by having the patient blow thru ordinary Nessler's solution using a drinking tube. Very small amounts of acetone in the breath produce an immediate clouding of the Nessler's solution. This solution is used in all clinical laboratories and is stable. As far as can be determined the test is quite specific. It may be carried out at the home or in the office and requires only the solution and a glass tube

URINE ACETONE

Lange's test using sodium nitroprusside is probably the most widely used test and is to be preferred. This test may be made by the physician in his office or in any clinical laboratory. There has appeared on the market recently a reagent powder to be used by the patient in testing his urine for acetone. This test offers promise.

Urine diacetic acid—Lange's test for acetone will, of course react with diatetic acid also. Gerhard's test using ferric chloride is probably the best test for diacetic acid. When postive the test should be repeated on boiled urine to determine if the reaction is due to acetone or to some drug present in the urine.

URINE SUGAR DETERMINATIONS

In the clinical laboratory the use of Benedict's qualitative reagent with heating in a water bath gives the most accurate and consistent results. A definite precipitate of cuprous oxide should be seen before a postive test is reported. Greenish discoloration due to uric acid or other minor reducing agents should be ignored.

In the home and in the physician's office either the Clinitest or the Galatest give good results. We prefer the Clinitest which requires a minimum of training and is quite reliable.

BLOOD CHOLESTEROL DETERMINATION

Various methods for the determination of total and free serum cholesterol have been described. In general all are fairly difficult and require special apparatus. Those methods differentiating between free cholesterol and its esters are the more difficult and are open to greater experimental errors We have been using a very simple method for the estimation of total choles-

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terol described by Forbes in the Journal of Laboratory and Clinical Medicine which is not found in the ordinary reference books. This is presented here in detail for this reason.

Approximately 3 cc. of doucil (synthetic silicate procured from Taylor and Co. Baltimore) is placed in a glass stoppered 10 cc. cylinder. 1 cc. of chloroform is added and the mixture shaken. ½ cc. of blood serum of plasma is added directly on the doucil from a volumetric pipette and the mixture thoroughly mixed by shaking. 9 cc. of chloroform is added and again mixed. Extraction for 2 hours or over night is allowed. Filter through glass wool or thru a funnel with a glass bead overlying the stem. 5 cc of the filtrate is placed in a tube and into a similar tube 5 cc. of a standard solution of cholesterol in chloroform is placed (0.1 mg. cholesterol 1 cc.) To each is added 2 cc. of acetic anhydride with mixing and 0.1 cc. of concentrated sulfuric acid. The tubes are placed in the dark (refrigerator preferred) foı 15 minutes for color development. Comparison is made in a colorimeter.

Calculation: $\frac{\text{Standard}}{\text{Unknown}}$ X 200 mgs. Cholesterol 100 cc.

The method requires about 10 minutes of actual working time.

R. C. N

ACP TO SAN FRANCISCO IN 1948

The 29th annual session of the American College of Physicians will be held in San Francisco, April 19-23, 1948, with headquarters in the Civic Auditorium.

WINTHROP AND STEARNS MERGE

The two pharmaceutical houses of Winthrop Chemical Company and Frederick Stearns & Company have been merged under the name of Winthrop-Stearns, Inc., according to an announcement made by the parent company, Sterling Drug, Inc. Dr. Theodore G. Klumpp, former head of Winthrop Chemical has been elected president of the new corporation.

Doctor Klumpp was formerly chief of the drug division, U. S. Food and Drug Administration, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, and adjunct clinical professor of medicine at George Washington University, and instructor at the Yale University Medical School

DR. SALKIN ON WASHINGTON PROGRAM

Dr. David Salkin, superintendent of Hopemont Sanitarium at Hopemont, and assistant professor of medicine at West Virginia University School of Medicine, presented a paper at the meeting of the Potomac chapter of the American College of Chest Physicians, held in Washington, October 5, 1947. He spoke on the subject of "Postmortem Pneumothorax."

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TUBERCULOSIS ABSTRACTS*

ENTIRE STORY NOT TOLD BY DEATH RATE

The best available single index as to the status of tuberculosis control is and always has been the mortality rate from this disease. The success of the tuberculosis program is best measured by the steady decline in the death rate during the past several decades. It is an impressive fact that tuberculosis mortality in the country as a whole has declined 53 per cent between 1924 and 1944.

The drop in tuberculosis mortality varies widely in the sex and color groups. The greatest decline in the past 20 years, for example, has been registered in the death rate for white women among whom the drop was 67 per cent; among non-white men, on the other hand, tuberculosis mortality declined but 42 per cent during the same period. (According to the last Federal Census, 99.4 per cent of all non-whites in the United States were Negroes; hence the two groups are almost identical.)

Table 1 shows for each sex and color group the

Sex and color	Tuberculosis death rate			Percentage decline in tuberculosis death rate	
	1944	1934	1924	1924-1944	1934-1944
All groups	41.3	56.7	87.9	53.0	27.2
White	33.7	46.2	74.9	55.0	27.1
Male	45.0	52.7	79.3	43.3	14.6
Female	23.3	39.6	70.4	66.9	41.2
Non-white	106.2	148.8	218.6	51.4	28.6
Male	122.7	156.9	215.0	42.1	21.8
Female	91.3	140.8	222.3	58.9	35.2

tuberculosis death rates in the past two decades, as well as the percentage decline in mortality.

For no major cause of death has a mortality decline been recorded which compares favorably with the drop in the tuberculosis death rate. On the contrary, mortality from heart diseases, cancer, and certain other leading causes has increased rather steadily while that from tuberculosis has been dropping continuously.

Table 2 gives the 1944 death rates from these three major causes for each sex and color group.

Sex and color	Death rate per 100,000 population in 1944		
	Heart diseases	Cancer	Tuberculosis
All groups	315.4	129.1	41.3
White	310.1	128.8	33.7
Male	398.6	135.5	45.0
Female	254.2	133.3	23.3
Non-white	239.0	81.9	106.2
Male	274.3	75.6	122.7
Female	220.6	92.2	91.3

These death rates, though admittedly correct, tend to be misleading as to the relative importance of these three diseases. More of those who die of heart disease and of cancer are elderly than is the case with those who die of tuberculosis. Moreover, tuberculosis is not only communicable but is preventable to an extent greater than either heart disease or cancer.

A compilation made to show the potential loss in years of life resulting from deaths from heart diseases, cancer, and tuberculosis in 1944 demonstrates vividly the seriousness of the disease which too often leads

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to prolonged illness and death in youth or middle age. The computation is based on the expectation of life at birth, as published by the Metropolitan Life Insurance Company in its Statistical Bulletin for May, 1946.

Separate analyses have been made for white and non-white men and women since these groups vary widely not only as to their expectation of life, but in the age distribution of deaths from certain causes.

The method used in this computation is simple indeed. For example, the average white woman may expect to live 69 years. If she dies at the age of 24 from tuberculosis, she has lost 45 potential years of life, whereas if she dies at 62 of heart disease, she has lost but seven potential years.

In the aggregate 1,929,953 potential years of life were lost by all Americans who died of heart diseases in 1944, compared with 1,287,245 potential years lost by those who died of cancer and 1,175,500 by those who died of tuberculosis in that year. In other words, because of the differences in the ages of those who died from these diseases, the potential loss in years of life occasioned by deaths from tuberculosis is within ten per cent of the loss caused by cancer, even though the tuberculosis death rate is but 32 per cent of the cancer death rate.

In spite of the fact that the mortality from heart diseases is seven and one-half times as high as that from tuberculosis, the potential years of life lost by those who died of heart diseases in 1944 were less than twice as numerous as the years lost by those who died of tuberculosis in the same year.

For many years the steadily declining tuberculosis death rate has been emphasized as the most significant evaluation of tuberculosis control. Less importance has been attached to a secondary result, namely, that not only are those who die of tuberculosis fewer in number each year but the median age at death becomes somewhat higher. These two encouraging developments have led some persons to the erroneous conclusion that tuberculosis is no longer a serious problem in this country. Yet, in spite of the declining death rate and the advance in the median age at death from tuberculosis, deaths from tuberculosis occur at much younger ages even today than do deaths from heart diseases and cancer.

It is clear from these findings that tuberculosis still constitutes one of our most serious social problems because of the comparative youth of the patients and decedents. Since all cases of tuberculosis are preventable, the disease also presents a more acute public health problem than do other major causes of death.—Decline in Tuberculosis Death Rate Fails to Tell the Entire Story, Mary Dempsey, The American Review of Tuberculosis, August, 1947.

NEW TIME SAVER

Designed to aid visiting nurses in administering hot-pack therapy, is a new portable Polio-Pak heater made of stainless steel. Weighing only 23 pounds, the little heater is a time-saver allowing the nurse to steam heat fifteen 12" by 24" double-thick woolen packs at one time. Developed particularly to aid in the Kenny method of treating polio, it may also be used in preparation of hot moist or hot dry packs for treatment of infections.—R. N.

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RUPTURE OF THE PREGNANT UTERUS

By GEO. W. EASLEY, M. D., FRANK J. BURIAN, M. D., and ROY T. RAPP, M. D.
Williamson, W. Va.

Rupture of the pregnant uterus is, fortunately, a rare obstetrical catastrophe. Black[1] states that not every surgeon observes a case during his entire career. However, due to the progressive increase in the number of cesarean sections performed, this complication probably will be encountered more frequently in the future. Various authors have reported on the incidence of uterine rupture.[1,2,3] An average of 1:1500 might be considered as a fair estimate.

Etiology.—The etiology usually is divided into causes during pregnancy and those during labor. During pregnancy, weakness of the uterine wall such as occurs from scars caused by a previous operation, especially cesarean section, is a common cause of rupture. Novak[4] in 1918 stated that approximately 2 to 3 per cent of cesarean sections are followed by rupture in later pregnancies. The literature contains many reports of rupture following this operation.[5] Faulty approximation of the uterine incision, blood clots separating the wound, infection, location of the placenta directly under the scar, et cetera, have been mentioned as predisposing factors to uterine rupture. Some obstetricians contend that the low cesarean operation is less likely to be followed by rupture than the classical type.[6] Myomectomy, previous amputation of the cervix and fixation operations have been considered as etiologic factors. Phaneuf[7] reported a case of spontaneous rupture following the Spinelli operation for inversion of the uterus, and repeated pregnancies, especially at short intervals, have been mentioned also. Abbott[8] points out that the weakness and laxity of the supporting abdominal wall in the multiparous woman allows the uterus to become anteflexed or assume a position of obliquity. The forces of labor are then not directed in the desired direction at the pelvic brim, and thus an actual obstruction to proper engagement of the presenting part is constituted, and rupture of the uterus can result. Other conditions that might be mentioned are overdistention from twin pregnancies or hydramnios, infiltration of the uterine wall in premature separation of the normally implanted placenta and certain congenital defects of the uterine wall.

Trauma, such as falls, especially from a distance of several feet,[9,11,12,13] automobile accidents,[10] direct trauma from an object,[14] stab wounds, perforation by a curet, placenta previa, and a hydatid mole burrowing through the uterus have been implicated in rupture of the uterus during pregnancy.

During labor, dystocia either from fetal or maternal causes, such as unusually large babies, malpositions (transverse presentations, face, brow, breech, compound presentations), abnormalities of the fetus (hydrocephalus, tumors of the neck or abdomen, hydrops of fetus), tumors of the uterus, and pelvic deformities should be mentioned. Injudicious use of oxytocics and operative obstetrics, especially podalic version, and injudicious use of forceps probably are as important a cause of uterine rupture as the pressure of a previous cesarean scar.

It has been pointed out[15] that Ludwig Bandl was the first to give a clear picture of the mechanism of uterine rupture during labor. Under the influence of labor pains the uterus normally becomes differentiated into two portions:

the upper active and the lower passive segment. These two portions become separated by a circular ridge of tissue called the contraction or retraction ring. The upper by its contractions serves to expel the child while the lower undergoes dilatation and forms part of the canal through which the fetus passes. When an obstacle impedes the passage of the fetus, the upper uterine segment undergoes progressively more forceful contractions and exerts upper traction on the lower uterine segment, which becomes thinner and thinner. If the anterior lip of the cervix becomes impinged between the presenting part and the symphysis, this acting as a fixed point, the lower uterine segment becomes still thinner, while the contraction ring becomes thicker and thicker and can be palpated and occasionally seen as a transverse ridge extending across the abdomen, progressively rising sometimes as high as the level of the umbilicus. The lower uterine segment becomes extremely sensitive, and the contractions of the upper uterine segment become progressively more frequent until eventually there is no relaxation between contractions, and the uterus passes into a tetanic state. It is through this thinned lower uterine segment that the catastrophe occurs. Any additional insult, such as administration of oxytocics, traction, version, or trauma to the uterus with forceps, may easily be the precipitating factor.

Pathology.—There are two classes of uterine rupture generally recognized: complete (which is the most common, approximately 80 per cent of the cases being of this type) and incomplete. In the complete variety the entire uterine wall, including the peritoneum, is involved, and the uterine contents usually are expelled into the peritoneal cavity. Incomplete rupture may extend through the mucous membrane and muscularis down to the intact peritoneum, which is not perforated. Abbott[8] suggests that a more useful division from the clinical point of view would be (a) intraperitoneal, which nearly always starts in the lower uterine segment and extends upward into the more muscular portion or fundus (the incomplete form here may go unrecognized unless exploration of the uterine cavity or abdomen is indicated from symptoms arising during or after delivery), and (b) extraperitoneal, which always starts in the cervix or lower uterine segment and involves the vaginal vault or the space in either broad ligament. A combination of the two can occur also. The intraperitoneal type usually is due to uterine force or contraction, the extraperitoneal form to operative trauma or exploration. The site of the rupture before the onset of labor is almost always through the fundus, while after the onset of labor, it is through the lower uterine segment. When it follows a previous cesarean section, the rupture usually follows the old scar. When it occurs in the fundus, it usually is longitudinal or oblique with the muscle fiber. In the lower uterine segment, it usually is transverse.

Symptoms and Diagnosis.—Only by studying some of the many cases reported in the literature can one get a comprehensive idea of the variation in symptomatology and the difficulties encountered in diagnosis. Classically, the symptoms are divided into those of impending rupture and those of actual rupture. Threatened rupture should be suspected especially in any case of prolonged labor, when dystocia exists and the uterine contractions are becoming progressively more severe, prolonged, with very little relaxation between pains, and when there is very little progress of labor. The patient is in great pain and has a drawn, anxious facial expression, the pulse becomes accelerated, and there is generalized exquisite abdominal tenderness, especially over the lower uterine segment. The round ligaments become taut, prominent, and can be palpated and sometimes seen through the abdominal wall. Bandl's contraction ring becomes prominent and looks like a tense band across the abdomen and may be mistaken for a full bladder. This ring gradually rises sometimes as high as the umbilicus. There is also a gradual rise in the fetal heart tones, indicating fetal distress. The symptoms of actual rupture vary from the mildest discomfort to profound shock and collapse. The classical picture usually is described as the patient experiencing a sudden sharp pain and crying out that "something tore loose inside." This is followed by cessation of uterine contractions, disappearance of Bandl's contraction ring, and internal or external bleeding, or both, the amount depending upon the degree of vascular damage and upon whether or not the uterus contracts and stops the bleeding. Various degrees of shock follow. The contour of the abdomen may change, especially if the fetus is expelled through the uterine tear, the fetus being palpable along the side of the uterus. The fetal outline can be palpated distinctly. There may be tremulous fetal movements followed by their cessation which usually indicates fetal death. There is also recession of the presenting part. Actually, the classical picture is seldom encountered, and the diagnosis is sometimes not made until after the operation or autopsy.

Brockman[5] reported a case of a 23 year old multipara who had an abdominal hysterotomy one year before for termination of a four and one-

half month pregnancy because of severe acidosis brought on by pernicious vomiting. The pregnancy progressed normally until about the seventh month, at which time the patient had a bloody 'show' and a few abdominal cramps which subsided in a few hours. Two days later pain started again, and there was slight bleeding from the cervix. Moderate cramps continued at irregular intervals. Three days later the patient was not in shock nor was there any indication of an emergency. The patient was operated on and the uterus was found to have ruptured at the site of the previous hysterotomy. The fetus and placenta had been expelled into the abdominal cavity.

Stapleton[9] recorded the case of a 17 year old Hindu primigravida who fell twelve feet from a second floor veranda. Although she complained of moderate pain over the right loin and hip, this gradually disappeared, and in four or five days she was able to get up and take food as usual. She reported to the hospital about ten days after the accident. The patient was at term but not in any discomfort. She stated that the fetal movements had ceased about three days after her accident. There was no suspicion of a ruptured uterus, and after an unsuccessful bag induction a laparotomy was done. The uterus was found to be ruptured, with a macerated fetus in the peritoneal cavity.

Treatment.—The course of treatment varies with the stage at which the patient is seen and depends upon whether the accident occurs at home or in the hospital. A decision as to the proper choice of treatment calls for extreme nicety in clinical judgment on the part of the attending physician. Rigid specifications as to treatment certainly cannot be laid down, and the treatment must be suited to the individual case. In treating threatened rupture of the uterus the contractions should be stopped immediately by deep anesthesia, preferably ether, and the patient should be kept under anesthesia until delivery is effected. If the patient is not in a hospital she should be transported to one if possible, and it should be done preferably under anesthesia. During the trip the uterus should be supported. Delivery should be accomplished as soon as possible by the least traumatic method. If there is no dilatation and the head is high, cesarean section is the method of choice. If the cervix is dilated 8 to 9 centimeters and if delivery can be accomplished easily from below, Duhrssen's incisions may be made or the cervix dilated manually and the baby delivered cautiously with forceps. If the anterior lip of the cervix is impinged between the head and the symphysis, it should be pushed up because traction from below would stretch the lower uterine segment still further. If the baby is dead, a careful craniotomy may be done. Version is not recommended.

Treatment of actual rupture in most cases is discouraging. If the patient is in the hospital and complete rupture results with the baby still in the uterus, shock therapy should be instituted immediately and laparotomy performed at once. If the patient is in the home, and if the child is still in the uterus and can be delivered from below, this should be done with forceps, pituitrin and ergot administered to contract the uterus, and morphine given for pain. The uterus may or may not be packed. The patient should be treated for shock in the best manner possible, and transported without delay to the nearest hospital.

If the fetus is in the abdomen, no attempt at delivery should be made, the uterus may or may not be packed, pituitrin, ergot and morphine should be administered, and the patient sent to the hospital. If incomplete rupture occurs in the home, it is better to pack the uterus, administer ergot and pituitrin and transport the patient to the hospital. If this is not possible and the tear is of a cervical uterine type, it may be sutured in the home. Bleeding may be profuse and necessitate an attempt to clamp the uterine arteries from below.

Incomplete rupture in the hospital should, of course, be repaired.

CASE REPORT

L. R., a 20 year old white female, gave birth to a female infant in 1941 after an eight hour labor. The patient was delivered in the home. She was told that the baby weighed 10½ pounds but was not sure if the doctor actually weighed the infant or estimated the weight. In 1943, after a five hour relatively uneventful labor, she again gave birth to a female infant in the home. This infant was not weighed, but the family thought it weighed about 9 pounds. In 1945, after a ten hour labor which the patient described as very painful, she was delivered in the home, with the aid of forceps, of a female infant, which the patient thought weighed about 8½ pounds.

The patient became pregnant again in 1946. The first day of her last menstrual period was April 18, 1946, the estimated date of confinement January 25, 1947.

On Feb. 5, 1947, at about 5 p. m., the patient began to have irregular low back cramps every twenty to thirty minutes. She retired, but the cramps kept her awake more or less all night. About 5 a. m., Feb. 6th, medical aid was sought. Since the nearest physician was too ill to respond, the husband engaged a midwife who,

according to the history, arrived on the scene about 10:30 a. m., made a vaginal examination (without gloves) and assured the family that the baby was "straight, head first, and everything would be all right". In the meantime, the labor pains were becoming more frequent (every five to ten minutes) and more severe. The patient stated that her "womb would hump up" and that she could "hardly stand it". During this time the midwife was administering ginger tea, black pepper in warm mater, massaging the patients abdomen with lard and turpentine, and doing vaginal examinations about every twenty to thirty minutes.

At 9 p. m., after being in labor about twenty-eight hours, the patient was thoroughly exhausted and insisted that a doctor be summoned. Against the midwife's advice, the patient was taken via automobile about ten miles to the home of the doctor. The patient waited in the car while the midwife and the husband went in to see the physician who was still sick in bed. The midwife assured the physician that everything was in order, the baby "being straight" and that all the patient needed was some "medicine for the carmps". The doctor, probably too sick to resist, and without examining the patient, gave the midwife some "brown medicine" to be given every two hours, and instructed her to take the patient to her own home where he could get to the patient if necessary.

The patient was then taken about six miles to the home of the midwife. The labor pains continued and were not relieved by the medicine, nor was the midwife able to effect delivery even after such dramatic measures as sitting on the patient's abdomen, and placing her in various grotesque positions. The doctor was called again, and arrived about 1 a. m., February 7, 1947. He made an examination and informed the midwife that the breech was presenting. The patient was given "two shots to bring the baby" and when this measure failed, the patient was put to sleep and the doctor tried to apply forceps to the breech

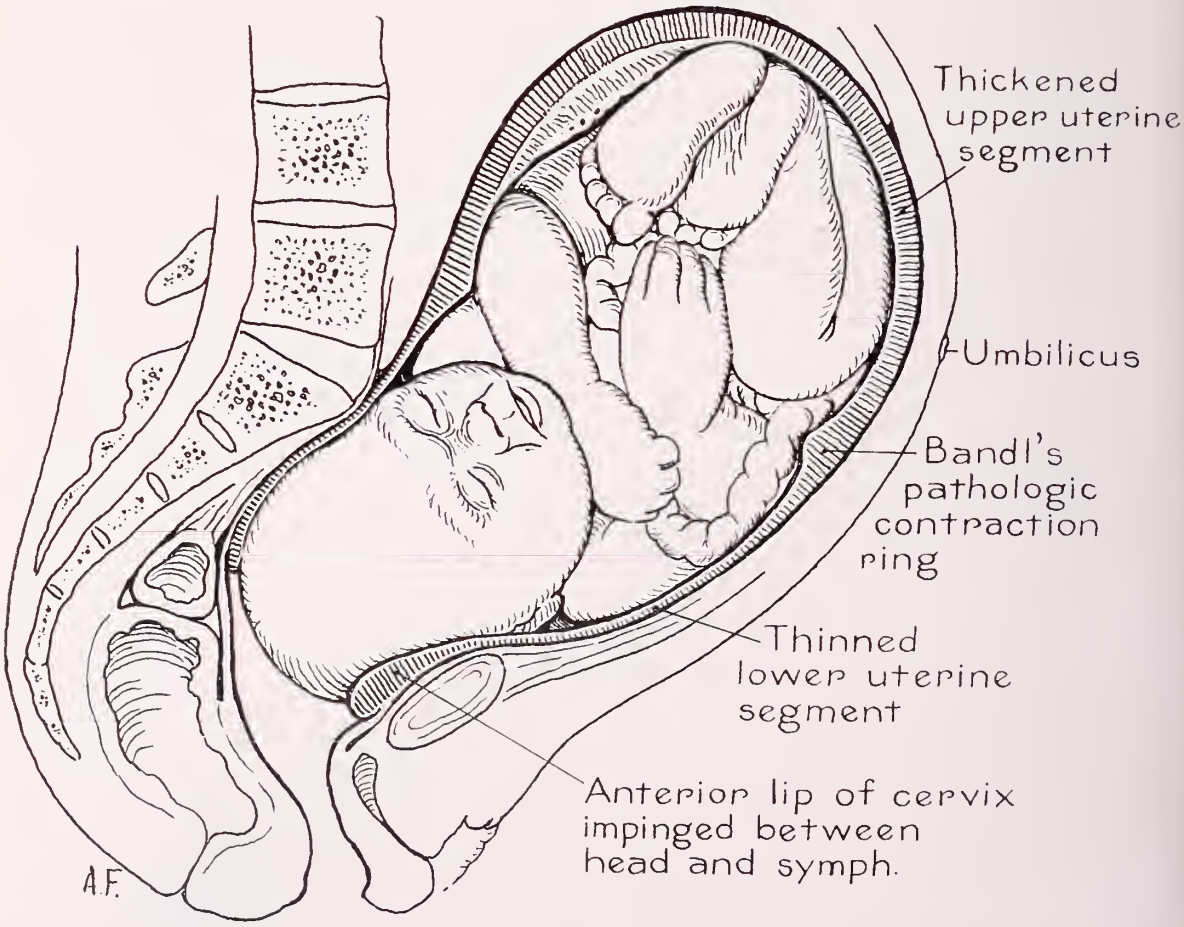

Fig. 1
MECHANISM OF UTERINE RUPTURE DURING LABOR

Under the influence of labor the uterus normal becomes differentiated into an active upper and a passive lower uterine segments. The two portions are separated by the contraction or retraction ring. When something impedes the progress of the head as in the flat pelvis illustrated above, the uterine contractions increase in intensity and frequency and Bandl's contraction ring becomes thickened and progressively rises sometimes as high as the umbilicus. The lower uterine segment becomes thinner and thinner, especially if the cervix is impinged between the head and the symphysis. The stage is thus set for the catastrophe.

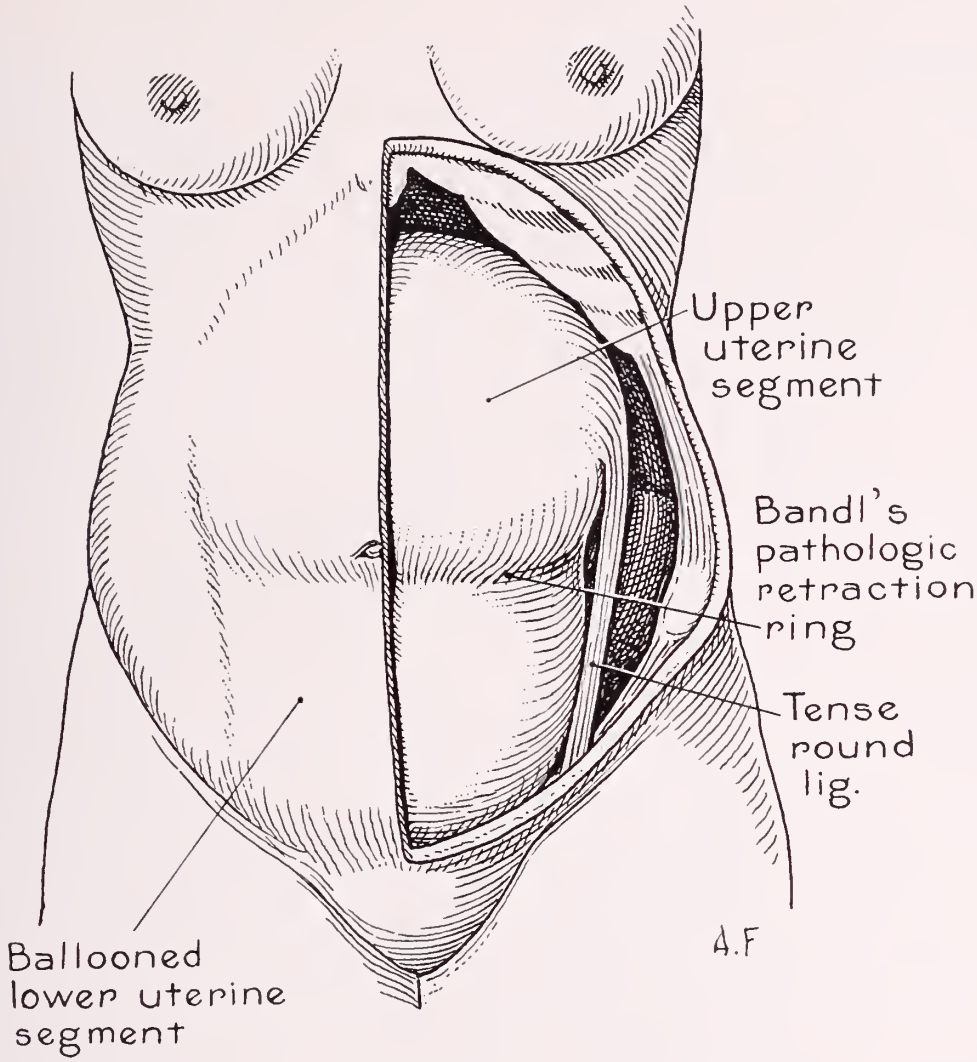

Fig. 2
ADOMINAL FINDINGS IN THREATENED RUPTURE OF THE UTERUS
The thickened upper uterine segment and the ballooned lower uterine segment separated by Bandl's pathologic retraction ring, which can be palpated and sometimes distinctly seen as a transverse ridge across the abdomen. The tense round ligaments can be palpated and frequently seen.

and effect delivery. After working about an hour without success, it was finally decided to send the patient to the hospital.

The patient was admitted to the Williamson Memorial Hospital February 7, 1947 at 4:30 a. m. On admission she was moaning and complaining of severe cramps. Her skin was dry and hot, and she was quite apprehensive but not in shock. She had been in labor about 35 hours and had not had anything to eat or drink except ginger tea and black pepper in warm water for twenty hours. Her blood pressure was 130 systolic and 80 diastolic, pulse 150, respiration 30, and temperature 102.2 F. Fetal heart tones were of good quality with a rate of 166. The uterus was contracting moderately every five minutes but did not seem to relax appreciably between pains. Bandl's ring was not evident. The patient stated that her abdomen was "very sore". This she attributed to the antics of the midwife. From the size of the abdomen, it was evident that the fetus was quite large. Abdominal palpation and rectal examination revealed a frank breech presenting in the left sacral posterior position. The presenting part was high and not definitely engaged in the pelvic inlet. The cervix was thick and dilated about 3 centimeters. The rectum was freshly lacerated, and the labia were quite edematous. When the patient moved, there was a slight trickle of fluid from the vagina which appeared to be amniotic fluid, lightly colored with bright red blood. One of us (F. J. B.) remarked that the fetal outlines seemed unusually prominent through the abdominal wall. However, this was not considered definite enough to be significant at the time. A flat x-ray plate of the abdomen

was made which confirmed the impressions gained on physical examination. A tentative diagnosis of dystocia due to an abnormally large fetus was made.

Here was a patient obviously infected. Due to the size of the fetus and breech presentation, the delivery of a live baby from below seemed impossible. As the child was still viable, a Porro section seemed the procedure of choice. One hundred milligrams of demerol and seconal, grains 3, were administered twenty minutes after admission to the hospital. Five per cent glucose in distilled water, 1,000 cc., and penicillin 50,000 units intramuscularly, were started. The patient's hemoglobin was 67.1 per cent and the red blood count was four million. The patient was typed for transfusion. About fifteen to twenty minutes after administration of the demerol and seconal, and after about 500 cc. of the 5 per cent glucose in saline had been administered, the patient stated that she felt much better. She had very little pain and her temperature had dropped to 100 F., the pulse to 100, the respiration to 20 and the blood pressure remained 130 systolic and 80 diastolic. The fetal heart tones were checked again at 8 a. m. and found to be of good quality with a rate of 160.

The patient arrived in the operating room at 10 a. m. When the abdomen was opened, the uterus was found to have ruptured transversely through the lower uterine segment, and the fetus was still in the uterus. A dead fetus, which was found later to weigh 10 pounds and 12 ounces, was extracted through the uterine tear, and the placenta, which had already separated, followed. Although the peritoneal cavity was filled with blood-stained amniotic fluid, there was surprisingly little bleeding considering the situation encountered. However, as the operation progressed, there was more bleeding, which was exaggerated somewhat by the cyclopropane anesthesia. The uterus was amputated about one centimeter above the internal os. The closure was done in the usual manner. During the operation, the patient was given one unit of plasma. She left the operating room in good condition, her blood pressure being 110 systolic and 70 diastolic, pulse 95, and respiration 22. Upon arrival in the ward 500 cc. of whole blood was started. The patient was reacting and talking in 35 minutes. Her postoperative period was relatively uneventful, and she was discharged on the tenth day.

SUMMARY

1. Uterine rupture probably will be encountered more frequently in the future due to progressive increase in the number of cesarean sections performed.
2. The most common causes of uterine rupture are (a) previous cesarean section, (b) injudicious use of oxytocics, and (c) operative obstetrics, particularly podalic version and poorly managed forcep deliveries.
3. There are two classes of uterine rupture: complete, in which the peritoneal cavity is opened, and incomplete, in which the muscle is torn but the peritoneum remains intact. If the accident occurs before the onset of labor, the tear usually is through the fundus. If it occurs after the onset of labor, the rupture usually is through the lower uterine segment.
4. The symptoms of impending and actual uterine rupture usually can be detected by the alert physician.
5. Treatment must be individualized, but a few general principles may be set down.
6. A case is reported which presented sufficient symptoms to warrant a diagnosis of ruptured uterus but such was not made. Had such a diagnosis been made, laparotomy might have been performed sooner and the infant saved.

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CONGENITAL BOWEL OBSTRUCTION IN THE NEWBORN

(REPORT OF A CASE)

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Bowel obstruction in the newborn long has been recognized, but only in recent years has management of such cases resulted in even a fair number of survivals. Recently Miller[1] pointed out that such organic obstructions of the bowel occur at the sites of the most complex embryologic processes, and enumerated these as follows: (1) the esophagus, at the level of the bifurcation of the trachea, (2) the duodenum close to the ampulla of Vater, (3) the lower ileum in the neighborhood of Meckel's diverticulum, and (4) the lowest rectum and anus.

The type with which we are concerned, as illustrated by the following case report, falls into the second classification, i. e., obstruction of the duodenum. Although Miller stresses the stenotic or atretic lesion, he fails to mention the number of his 11 cases which fell into this category in contrast to the type in which obstruction is due to incomplete or faulty rotation of the midgut about the axis of the superior mesenteric artery. A review of the literature[2] discloses a report by Weible of 67 cases of duodenal obstruction in 1914; 392 cases of congenital intestinal obstruction of all parts of the intestinal tract were reported in 1922 with a survival rate of 2, or 0.5 per cent. The report of Swenson and Ladd,[3] in which 51 cases of congenital duodenal obstruction are cited, exhibits an overall mortality rate of 23.5 per cent after surgical intervention. Of these 51 cases, 30 showed the extrinsic type of obstruction, that is, volvulus and/or constricting bands, where a more or less simple untangling maneuver was sufficient to restore continuity of intestinal flow. Mortality in this group was only 13.3 per cent, in contrast to the group of stenotic or atretic lesions requiring anastamosis in which the mortality was 8 in 21 cases, or 38.1 per cent.

The clinical picture in congenital duodenal obstruction is fairly clear-cut and, in our opinion, presents the need for immediate surgical intervention with a minimum of delaying diagnostic laboratory procedures. The infant will invariably vomit from the first feeding on, the vomitus being definitely bile-stained from the beginning except in the relatively rare cases in which the obstruction is due to a stenosis or atresia lying between the pylorus and the ampulla of Vater. Bowel movements will practically cease after the initial emptying of the normal meconium contents. The infant exhibits constant and ravenous hunger and will no sooner empty its stomach than it is ready to nurse again. Obviously the progressive inanition resulting from such a course very definitely limits any delay in undertaking surgery, since only a short period of such electrolyte loss is sufficient to produce a serious imbalance in the infant. When abdominal distention is present it is seen in the upper abdomen only, and that is usually not marked due to the frequency with which the stomach is emptied. As the inanition and dehydration progress peristaltic waves may be seen in the upper abdomen.

In contrast to this picture, the vomiting seen in pyloric hypertrophy usually does not begin until the fifth to seventh day of life; the vomitus is not bile-stained; stools, while they may be infrequent, are present and contain bile, and the relatively benign course permits of some temporizing and, frequently, of successful medical handling.

In view of the rather typical history and appearance of infants with congenital duodenal obstruction, traumatic and time-consuming laboratory diagnostic procedures such as fluoroscopy and x-ray with barium and air as contrast media, as suggested by some writers, seem to us to be unnecessary and possibly even harmful. As suggested before, time is of the greatest importance, and every hour's delay in performing the necessary operation lessens the chances of recovery. Furthermore, barium or iodized oil instilled into the bowel introduces added risk of contamination through perforation of the delicate intestinal tissue, whether or not an anastomosis is necessary, and the danger of aspiration of vomited barium or iodized oil, with a resulting aspiration pneumonia, is an ever present danger.

Initial treatment consists of the restoration, as rapidly as possible, of at least a near normal electrolyte balance together with the introduction of some nutritional factors. The former is accomplished by subcutaneous administration of Ringer's solution; the latter by subcutaneous glucose, whole blood given either into the muscle or in the vein, or both, and vitamin K and cevitamic acid subcutaneously. Following surgery, the same general supportive measures are indicated for the first twenty-four hours. At the end of that time the majority of such infants will have stopped vomiting and become able to take frequent small feedings of suitable formula. Subcutaneous fluids should be curtailed in relation to retained oral fluid intake.

The following case report illustrates the successful treatment of a typical extrinsic duodenal obstruction.

CASE REPORT

Baby P. M., white, female, born March 9, 1947. Following birth the child vomited everything taken by mouth, and the vomitus was bile-stained. It had one stool.

The baby weighed 6 pounds and 3 ounces. It was well nourished and developed and showed very little evidence of dehydration. The upper abdomen was distended, and the stomach was palpable in the left upper abdomen at times. Remainder of the examination was negative.

The red blood count was 4,900,000 with 97 per cent hemoglobin. The blood type was II.

The baby was observed intermittently during the first three days of life. It was noted that everything taken by mouth was vomited, usually within twenty minutes, and was bile-stained. Since there was some distention of the upper abdomen and the stomach was palpable, we felt that there was an obstruction in the duodenum or in the first part of the jejunum. With this thought in mind an exploratory operation was performed March 13, 1947.

An upper right paramedian incision was made and the rectus abdomnis muscle split. On opening the peritoneum the stomach was found to be dilated, as was the duodenum. Below this the bowel was extraordinarily small, completely deflated and cyanotic. In the region of the ligament of Treitz the mesentery was found to be twisted through one complete circle in a clockwise manner. This torsion was relieved by rotating the intestines in a counterclockwise turn. Following this the contents of the duodenum could be forced to move into the jejunum. The intestines were then replaced in the abdominal cavity, and the abdomen closed in layers.

The patient's postoperative course was uneventful. There was occasional vomiting; however, the baby retained most of its feedings and steadily gained weight. There was some breaking down of the wound which was repaired March 21, 1947. The baby was discharged from the hospital April 1, 1947, and by April 23rd, the wound had healed completely. When last seen June 23, 1947, the baby was healthy and gaining weight normally.

SUMMARY

1. A case of volvulus neonatorum is presented.
2. Continuous vomiting of bile-stained material commencing within a few hours after birth should lead one to suspect a congenital duodenal obstruction.
3. Time-consuming and hazardous preoperative laboratory procedures are to be condemned.
4. The necessity of early operation is emphasized.

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STREPTOMYCIN IN TUBERCULOSIS

In the search for a specific cure for tuberculosis, Streptomycin, an antibiotic discovery by Dr. Selman A. Waksman of Rutgers University in 1944, has come into great prominence. That certain acute types of tuberculosis, especially the hematogenous or lympho-hematogenous, types of recent origin, are favorably influenced at least temporarily cannot be denied. Indeed many, if not most exudative types of disease and such complications as laryngitis, tracheo-bronchitis and tuberculosis sinuses have been reported to respond favorably to the proper administration of the drug. In fact, favorable response has been observed in practically all but the chronic types of the disease. Yet, advice from most trustworthy sources is against its indiscriminate use, and emphasis is placed on strict compliance with accepted methods of conventional therapy such as bed rest and approved surgical procedure.

The reason for this stems from the fact that it is usually ineffective in chronic forms of the disease and there is a tendency for streptomycin sensitive strains of organisms to rapidly develop drug resistance. It is not yet known whether in so doing streptomycin increases the virulence of the organism for the host, but it has been considered a possibility. There is a tendency to relapse in acute miliary and meningitic forms after a period of favorable response, although life has unquestionably been prolonged, in some instances indefinitely. Another reason for caution is due to the toxicity of streptomycin. Disturbance of the vestibular branch of the eighth nerve may result in vertigo or deafness which may be permanent after a course of treatment, and other complications such as liver and kidney damage, allergic reactions, nausea and vomiting may handicap its use. The cost of streptomycin therapy in the treatment of tuberculosis is an important factor. Although this should not preclude its use when indicated, it becomes a serious obstacle for the low income groups, and for public institutions when used indiscriminately.—Westchester Medical Bulletin.

THE CHEMOTHERAPY OF CANCER

No doubt the greatest handicap in the development of cancer treatments has been the lack of things to measure; time is of the essence in the evaluation of putative therapeutic modifications and cancer is frequently so indolent and diffuse as to defy quick and precise measurement. Always one is faced with the fear that a little improvement may escape detection and a valuable lead thus be overlooked.

The only rapid indicators of neoplastic activity now available in man concern tumors of the blood-forming organs and cancer of the prostate. Obviously the development of a chemical method for the study of the activity of any other cancer will be of first class the activity of any other cancer will be of first class importance.—Charles Huggins, M. D., in Surgery, Gynecology and Obstetrics.

EFFECTS OF ATOM BOMB RADIATION ON THE HUMAN BODY*

By CAPT. GEO. M. LYON (MC) USNR
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Probably no single weapon ever has been employed in warfare which is attended by such widespread and profound psychologic effects as the atomic bomb. These effects may be divided into two broad categories: the effects it has had on those of use who have never had it used against us and the effects it had upon the Japanese against whom it was employed. In the first instance, it is extremely important that each of us, as voting citizens, have some appreciation of the problems that this form of warfare has introduced. Obviously, no one knows the complete answers to these at the present time. We are therefore going through a period of feeling our way along in our attempts to evaluate just what this weapon means, or may mean, in relation to our individual and national existence.

The film "Operation Crossroads" has been prepared by the U. S. Navy to bring before the public information concerning not only what an atomic bomb may do but also to show the great effort which was made to employ all the latest technologic equipment and technics in obtaining this information. Admiral Blandy has insisted at all times that consistent with the security of our national interest and defense the information obtained from the tests should be made available to the public as accurately and as promptly as possible. It is only after the individual has certain factual information that he can develop a realistic appreciation of the seriousness of the atomic bomb. This film is intended to aid you in this respect.

HIGHLIGHTS AND TECHNICAL FEATURES

In order that you may understand some of the interesting phenomena you will see in the film, I want to point out certain highlights that you may watch for. Then I want to describe some of the interesting technical features which were employed in obtaining and recording this information.

When the explosion occurs there is a release of great physical energy. The first visible effect is the burst of intense light and heat. At the same time there is the emission of gamma rays, neutrons and beta particles in intensities which can produce injury or death to those within range. These cannot be seen but their existence can be detected and measured by instruments, and their unmistakable effects can be observed in animals near enough to be exposed. Also, at the time of the explosion of the bomb, there is built up a great pressure wave which is propagated away from the central area of the explosion in all directions. Since this pressure wave travels away from the explosion with approximately the speed of sound it is some moments later that many of its effects are to be observed. The pressure wave can be watched in the film as a black line extending its spherical front outward from the center. On the surface of the water this appears much as if a huge pebble had been dropped into a quiet pool.

Following the positive pressure wave in air, there is a generally spherical wave of reduced pressure which is below atmospheric pressure. The rarefaction of air, which occurs in the presence of this reduced pressure wave, produces a condensation of the moisture which is present within the air. This is early apparent as a huge goblet and later as a huge fluffy doughnut. Gradually it disappears as the pressure of the air returns to normal and the water particles return to an invisible state within the air over the surface of the lagoon. This cloud effect is spoken of as the Wilson Cloud Chamber Effect and it is one of the most spectacular and interesting phenomena to be observed. In one series of photographs taken from a pilotless plane flying directly over the explosion of the underwater test and taken at the time of the explosion, one can see (a) the clear-ut outer dark ring produced by the pressure wave, (b) the cloud produced by the reduced pressure wave and (c) in the center the material blown up from the lagoon in a remarkable concentric display.

When the first bomb was fired at Alamogordo, New Mexico, the test site was at an altitude of 5,000 feet above sea level. Although it had rained for some hours immediately preceding the test, there was actually little water in the air. On the other hand in the Bikini tests at sea level, there was much water actually present in the air. Visible light effects at Bikini were relatively less spectacular due to the interference of water in air with the light and heat rays radiated from the explosion. The amount of water in the air had a great deal to do with the altitude to which the explosion column ascended, the greater the moisture in the air the lesser the height to which the column would ascend.

Due to the hot gases formed in the central area of the explosion, a cloud column is formed by the ascension of these hot gases to an altitude at which there is no difference in temperature between the gases which have been cooling and those of the surrounding air. This principle of

*Presented before the 80th Annual Meeting of the West Virginia State Medical Association, at Charleston, May 14, 1947.

adiabatic expansion explains why this column ascends. It does not arise as a result of an explosive force upward. As the column ascends air is drawn up into its wake from near the surface of the lagoon. At certain places the speed of this air movement may reach fifty to one hundred miles for a brief period of time. This effect can be seen in the movie where soot and dust was thrown into the air when the ships were shaken by the pressure wave. Subsequently when this air current which was being drawn to the center of this column developed it carried these dark clouds of dust into the base of the rising column.

Once the column ascends, evidences of the wind currents at the different levels of altitude can be seen. They tend to carry it "downwind" for that particular level and direction of wind. This cloud column carrying the deadly radioactive contamination is gradually dispersed and becomes so lost in distance and among other clouds that it cannot be readily recognized. It can, however, be tracked to considerably greater distances in airplanes carrying personnel with Geiger counters or other instruments.

In the underwater test, as you will see, the various phenomena and the photographic recordings are even more spectacular. This was a very important test as none of the previous four atomic explosions had yielded quite the same results. You will see an incandescent dome rise from the surface of the water. Then the plume rises and it in turn is followed by a column of water, part of which is actually reflected from the bottom of the lagoon. The lower part of this enormous column consists of water which falls back into the lagoon like a huge plunger. This creates an enormous formation of spray and mist which spreads out over all of the target vessels, depositing on them deadly fission products which give off gamma rays and beta particles.

The top of the column is a cloud formation. It is borne downwind much as in the first test. It also contains radioactive fission products.

To detect the presence of dangerous fission products, safety officers used Geiger counters, ionization chambers and other instruments. These vary in size. Some are the size of a large library book. This is the type you will see used when an officer holds an instrument up to a red plane when he is testing it for radioactivity. Other survey meters are as large as 10 x 10 x 10 inches. This latter type was developed for the Normandy invasion when it was thought desirable to be so prepared in case the Germans launched an atomic warfare. One of these instruments is shown in that section of the film which shows an officer approaching one of the dust bags which is being removed from one of the pilotless planes. Both of these instruments, employed as survey meters, were very important in the conduct of the Bikini tests and in protecting the personnel who might otherwise have been exposed to injurious radiation.

Another device employed in order to be certain that none of the personnel were being overexposed was the pencil electrometer which individuals were required to carry on their persons. These function on the principle of a gold leaf electroscope, discharging when ionization is produced in the enveloping gaseous medium as a consequence of ionizing radiations. The amount of the radiation exposure is indicated on a scale in the instrument. A closely related instrument used for the same purpose is a pencil sized ionization chamber which is carried on the person and the exposure subsequently checked with a string electrometer.

Still another device employed to measure exposure of personnel was the badge containing some x-ray film. This was worn on the person of the individual and subsequently developed and measured to see how much the exposure had been. By combining these measures many checks were possible as to efficacy of the individual safety devices used. In order to be doubly certain reliance was not placed on a single instrument or technic.

The electronic devices and technics used were the very latest in this field. Many were secret. Cameras were activated by remote control and lead barriers to protect the photographic film were operated by such means. The bomb was detonated by electronic circuits in the second test and you will see them closing these circuits in the U. S. S. Cumberland Sound, the "firing ship".

Two very spectacular and important features of the tests were the pilotless planes and the pilotless reconnaissance boats. Both were controlled by electronic means from planes which were airborne. Television was employed for other tasks. In the first test I witnessed the explosion through a remarkable instrument called an icaruscope. I was intrigued by the clear-cut visualization of the positive pressure wave in the air, and by the broad area of coverage provided in the viewing field.

The pilotless plans are called "drone planes". They were colored red or orange to differentiate them from the manned planes. The U. S. Army Air Force had B-17 drone planes and the U. S. Navy had F6F drone planes. The former were large four engine planes and the latter small

rapid fighters with single seat and single engine. Both types of planes took photographs, motion and stills. Besides this they obtained valuable samples of air and dust from the radioactive cloud and cloud column for later radiochemical analysis.

The orange colored pioltless boats were employed to act as advance safety personnel. Guided from low flying mother control planes these small boats were equipped with Geiger counters and with electronic equipment to broadcast by radio to the control center the intensity of the radioactivity to which personnel, had they been in the boat, would have been exposed. Also, by electronic means, these boats obtained samples of the radioactive water for analysis at a time when it would have been very dangerous for personnel to be near the radioactive water for even the short time required to take the samples. As the film will show, great pains were taken to get important information. No individual suffered any injury whatsoever from the bomb or its after-effects.

The Navy is justly proud of its role in this historic and important technical experiment.

(A movie, "Operation Crossroads", was shown)

AFTER-EFFECTS

A great deal of interest and study has centered around the effects which the various forms of physical energy released by the atomic bomb may have upon personnel exposed to these dangers. To study these effects several groups have been organized. Shortly after the Hiroshima and Nagasaki incidents, medical officers from U. S. S. Wichita made clinical observations on victim patients. Later, medical officers from U. S. S. Haven did likewise. Still later, medical personnel representing (a) the War Department under Col. A. W. Oughterson, A. U. S., (b) the Manhattan Engineer District under Col. Stafford Warren, A. U. S. and (c) a naval medical mission under Capt. Shields Warren, U. S. N. R., visited these cities for the purpose of medical investigation. The work of these groups has been combined under a joint commission. Shortly, a very complete book on the medical aspects of the situation will be published under the joint authorship of the aforementioned medical officers.

The Japanese scientists have made elaborate studies and some publications. In general these publications must be accepted very guardedly as there have been many irregularities and often serious miscrepancies in their observations and recordings.

More recently President Truman directed that a committee to be known as The Committee on Atomic Bomb Casualties be established under the National Research Council. Dr. Thomas Rivers, Director, Rockefeller Foundation, is chairman of this committee which already has published one report prepared by Drs. P. S. Henshaw and A. Brues who recently returned from a period of study in Japan. I present this information to show that much has been, and is being done, to gather medical data from these two atomic bomb explosions. The information I bring you today has been published by some of the groups I have described.

At the time of the explosion of the bomb, intense light and heat energies are released as well as various forms of ionizing radiations which include gamma rays (which are similar to x-rays), beta particles and neutrons.

The light rays consisted of both visible and invisible rays including the infrared and the ultraviolet. These produced flash burns of varying severity, including second and third degree burns. Other serious burns were received indirectly as a result of burning objects.

Inasmuch as the main interest today centers around the effects produced by the ionizing radiations which are not found in the detonation of other forms of explosives, and because the various forms of ionizing radiations (gamma, beta and neutrons) produce essentially the same qualitative changes in living tissue, the term "ionizing radiations" will be employed in this discussion of the biologic effects to refer to, and to be limited specifically to, these forms of physical energy. Although the qualitative effects are the same, the *quantitative* effects and the clinical picture resulting from exposure to ionizing radiation vary somewhat depending upon (a) the specific type of ionizing radiation, (b) the intensity of the radiation, and (c) the means by which it is brought to bear upon the individual (direct radiation, residual radioactivity, localized or total body radiation, and internal radioactive poisoning).

The outstanding feature of the exposures in Japan was that of *total body radiation*, a condition rarely, if ever, encountered in civilian life except perhaps in some situations when x-ray pictures are made of large metal castings. Whereas 400 to 500 roentgens of x (or gamma) radiation is usually a fatal dose of exposure for total body radiation. 100 times that amount of localized irradiation may be employed in the treatment of certain brain tumors in children when the exposure is limited to a small localized area of the

head. It must be appreciated that this statement refers to dosage of exposure rather than to actual tissue dosage.

In Japan, just as would previously have been anticipated by experts in the field of radiology, the lymphocytes were the first of the formed elements of the blood to reveal laboratory evidence of radiation sickness. Such evidence was in the form of a reduction in numbers of lymphocytes in the circulating blood followed by a fall in the granulocytes, the platelets and the erythrocytes of the circulating blood. Because of these facts the study of the blood cells constitutes one of the most valuable aids to diagnosis and prognosis. The clinical findings can be visualized on the basis of the pathologic changes produced within the specifically susceptible tissues.

Some deaths occurred on the first day. Extreme shock was the outstanding clinical feature, the typical picture of radiation sickness not having had time to develop.

After the second day, deaths occurred as a result of one or more of the following: (a) direct injury to lymphoid tissue with edema and ulceration (lymph glands, tonsils, intestines), (b) paralysis of the blood cell producing tissues (lymph glands, bone marrow), (c) injury to certain reticulo-endothelial structures, (d) hemorrhagic tendencies usually aggravating an aplastic type of anemia, and (e) secondary infection which was invited by direct injury to lymphoid tissues associated with a lack of granulocytes locally and within the circulating blood and with alteration of effectiveness of other infection resisting mechanisms.

After the first day, the number of deaths due to radiation was observed to reach a maximum at three weeks thereafter receding to six weeks. After this period of time, they were not common.

Skin burns in survivors usually were due to flash, heat or flame and not to ionizing radiation. Individuals receiving enough ionizing radiation to burn their skin usually died from an excessive dosage of total body radiation. Some survivors did show epilation.

Lymphoid tissue of various organs was injured by the radiation. Tonsils became swollen, ulcerated and sloughed. Severe angina was not uncommon. Lymphoid tissue in intestines was injured, became ulcerated and frequently simulated lesions observed in bacillary dysentery. Often there was associated diarrhea, usually bloody, severe, and serious. Hemorrhages in varying degrees of incidence and severity were at various times observed in all of the tissues of the body. These were petechial, purpuric or, if in mucous membranes, often openly oozing.

Some male survivors were temporarily sterile. Libido and potency were affected only in accordance with the general somatic and psychic reactions produced and in accordance with reduction in general bodily vigor.

Menstrual cycles were altered in females. In some instances, menstruation was temporarily suspended. Early fetal death and miscarriage were encountered. Deformities of surviving fetuses were not found. Henshaw and Brues recently reported that they found no monstrosities. This point will receive much study in the future. Although greatly feared because of its potential seriousness, there is no current evidence that radiation injury to the genes of human beings will produce abnormal offspring in subsequent generations. The observation of Doctor Miller of the University of Indiana suggests such a possibility. Since abnormalities in succeeding generations of irradiated individuals are at times observed in the offspring of lower forms of plant and animal life, it is feared that the same fate might be in store for human beings. Many difficulties attend the study of such a complex genetic problem in man.

OUTLOOK

There is no known specific treatment for radiation sickness or radiation injury, nor is one likely to be developed. While diagnosis is not difficult in most cases of significant radiation injury, we are badly handicapped by the lack of objective diagnostic test for detecting early evidences of radiation injury and for detecting evidences of radiation injury in the mild or borderline exposures. Proper care and medical attention can help to save some casualties with borderline exposures. Such care consists of supportive measures only. The clinical condition of the patient dictates the supportive measures.

The individuals who were near the periphery of the radiation (on the borderline, so to speak), could have benefited by good medical attention had this been available to them at Hiroshima and at Nagasaki. Dr. Shields Warren has stated that at Hiroshima several thousand lives would have been saved had good medical attention been available to them at the time. However, when such a catastrophe occurs, it is almost impossible to have any kind of medical help at hand, because the whole community is paralyzed, transportation and communication are disrupted, the local hospitals and medical services knocked out, and the rendering of assistance from the outside is most difficult to accomplish.

The only effective means of prevention lies in an effective means of preventing wars.

The leadership displayed by Vice Admiral W. H. P. Blandy, U. S. Navy, who was in command of the task force which conducted the tests, and the great attention given by him to the safety of personnel and to the serious implications of the operation were such as to command the greatest of respect from those associated with him.

As Deputy Commander for Technical Direction, Rear Admiral William S. Parsons, U. S. Navy, a brilliant scientist who had much to do with the development of the atomic bomb, was in charge of all technical matters. I am certain that if the future of our country, from a military standpoint, is left in the hands of such superior individuals as Admiral Blandy and Admiral Parsons, we are in a relatively strong position.

A PLEA FOR EARLY DIAGNOSIS OF CANCER

Many patients with cancer are still being seen too late by surgeons and radiologists, the disease having progressed to such an extent that "a cure" is impossible. Some would imply that this is entirely the fault of the patients who procrastinated and waited too long before presenting themselves for medical aid. This is often true but I am sorry to state that the delay is too often the fault of the medical profession—really a sad state of affairs—a deplorable condition.

We all know that in every malignant growth there is a stage where it is curable. The public has been informed that the only hope of a cure in cancer lies in early diagnosis (and of course adequate treatment). More and more people are seeking medical opinion to see if they have cancer. This is the result of various cancer campaigns that have been directed towards the laity. Therefore, the medical profession has been given a very definite challenge. We must not blunder in the management of malignancy as there is seldom a second chance.

A medical doctor accepting a patient who has symptoms that could be due to cancer assumes an extremely grave and responsible duty. The future of the patient is in his hands. Consequently, before he assures the patient that he does not have a malignant condition, he must have made sure that everything possible to rule it out has been done. He must satisfy himself that he has used, and taken advantage of, every available means to make certain that the patient is not suffering from a malignancy. He must know without a doubt that the patient does not have cancer. This may involve a great amount of time, energy, tenacity and patience because superficial examinations have no place in suspected malignancy. Furthermore, physicians and surgeons must always be on the lookout for neoplasms. They must always maintain a cancer conscious attitude toward any patient presenting even mild or minor symptoms that could be signs of that disease.

One must remember that a patient may develop or be afflicted with cancer while attending a doctor and undergoing treatment for some other condition. We must be cognizant of the fact that while there is more or less a "cancer age" it can, and does, occur at all ages and even young people do, at times, have cancer.
—Norman D. Hall, M. D., in Arizona Medicine.

OXYGEN THERAPY*

By JOHN F. MORRIS, M. D.
Huntington, West Virginia

Normal respiration in man is carried on without conscious effort. However, if complete oxygen want is experienced, the individual loses consciousness in less than one minute and dies within ten minutes. Since there is no storage of oxygen in the body, we live a minute-to-minute existence. In abnormal states, such as cardiac decompensation, respiration becomes difficult. In addition to the pathologic physiology, the effort and anxiety increase the need for oxygen. This creates a vicious circle which is broken up to a great extent by increasing the oxygen intake.

The fundamental physical principle of oxygen transport is partial pressure or oxygen tension. When a semipermeable membrane separates two gases of different pressures, there is a tendency to equalize these pressures by diffusion from the greater to the lesser pressure. Barometric pressure at sea level is 760 millimeters of mercury, 21 per cent or 159 millimeters being oxygen. The remainder is due mainly to nitrogen. When taken into the alveoli, the atmospheric oxygen has been diluted by carbon dioxide and water vapor to approximately 14 per cent or 106 millimeters of mercury. The oxygen will diffuse through the alveolar membrane to the blood since the partial pressure is greater in the alveoli. Oxygen is transported in the form of oxyhemoglobin and in simple solution in plasma. When the blood reaches the tissues, the oxygen diffuses to the tissues since the partial pressure of oxygen is lower. Carbon dioxide diffuses from the tissues to the plasma, increasing the tension from 40 to 46 millimeters of mercury. The carbon dioxide then flows from the venous blood to the alevoli, since the tension is 6 millimeters of mercury higher than that of the alveoli.

Deficiency in oxygen, called hypoxia, may be due to intrinsic causes, that is, anything interfering with the normal intake, exchange, transport or utilization of oxygen, or extrinsic causes such as decreased partial pressure of oxygen. This may be remedied by oxygen therapy. For example, the B. L. B. mask makes it possible for the patient to inspire approximately 100 per cent oxygen. This increases the hemoglobin saturation from 95 per cent to approximately 100 per cent and increases the oxygen in solution in plasma from 0.3 cubic centimeters to 2 cubic centimeters. Thus the oxygen concentration of

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*Presented before the Staff Meeting at St. Mary's Hospital, in Huntington, West Virginia, June 26, 1947.

the blood is increased from approximately 20 cubic centimeters per 100 cubic centimeters of blood to over 22 cubic centimeters. This increases the amount of oxygen available to the tissues.

INDICATIONS FOR OXYGEN THERAPY

Any form of oxygen therapy implies the early administration of sufficient oxygen to restore normal physiology. It should not be resorted to as a last minute procedure, nor should it be delayed until cyanosis appears. An increasing pulse rate is a most important early sign of hypoxia. The pulse rate likewise is a useful guide in discontinuing therapy. The character and rate of respiration are not dependable guides since there may be no significant change until severe hypoxia is present. Restlessness is another important sign which indicates oxygen want, and all to frequently it is treated by sedatives which tend to aggravate the abnormal physiology. In acute oxygen want the pulse may become slow and bounding, the respiration shallow and irregular, and fibrillary twitchings may progress to convulsions.

The respiratory center is extremely sensitive to hypoxia; a moderate degree of hypoxia depresses its function, thereby causing the initiation of respiratory impulses to be taken over mainly by the carotid bodies. When the respiratory center is severely depressed by oxygen want or by anesthetic drugs the administration of carbon dioxide or analeptics frequently causes greater depression and may precipitate convulsions.

The main indications for oxygen therapy are as follows: cardiac decompensation, pulmonary infections, coronary disease, asthma, shock, hemorrhage, respiratory depression, hyperpyrexia, thyrotoxicosis, gas poisoning and alcoholism.

CONSIDERATION OF APPARATUS

In the administration of oxygen one must consider the method which will be most beneficial to the patient, and which will be at the same time most economical and simple. The most widely used methods are the tent, the oropharyngeal catheter, the mask, and the box. All methods are supplied by a 22 cubic foot cylinder fitted with a valve which will reduce the pressure to a safe level. A flow meter is essential to regulate the amount delivered per minute. Commercial oxygen is the same as "medical oxygen" and may be obtained at machine shops, garages, et cetera, in case of emergency.

The oxygen tent is a 12 cubic foot air-conditioned chamber in which the oxygen concentration is 40 to 60 per cent, the temperature about 68 degrees F., and the relative humidity 40 to 60 per cent. The oxygen flow should be regulated to 15 liters per minute for the first thirty minutes, then reduced to 8 to 10 liters per minute. The flaps should be tucked under the mattress to avoid leaks. A rubber sheet under the mattress will diminish the loss of oxygen. The ice container should be filled with grapefruit-size chunks of ice and this should be done outside the sick-room to avoid disturbing the patient. The fire hazard should be explained to the patient and family. Care must be taken to prevent any part of the motor from coming in contact with the oxygen-enriched atmosphere. It is obvious that this method demands constant supervision, interferes to some extent with nursing care, and is relatively expensive.

The B. L. B. mask will deliver an oxygen concentration up to 100 per cent. It is simple of operation and relatively inexpensive. The high oxygen concentration is not irritating to the pulmonary epithelium even when used for two or three days. Occasionally the patient will not tolerate the discomforts of a face mask even when thoroughly informed of its value. In this case the method should be promptly abandoned for another method. To persist in a method which the patient is constantly fighting defeats the purpose of the treatment.

In the treatment of asthma the face mask may be used to administer helium-oxygen mixtures. This combination is much easier to breathe since it takes less pressure to get the gas through the narrowed orifices. The helium replaces the nitrogen, thereby producing a mixture which requires approximately one-half the pressure for passage through the constriction.

The meter mask provides a means of immediate variation in oxygen concentration from 40 to 100 per cent. It is used also to administer oxygen under positive pressure of from 1 to 4 centimeters of water. The positive pressure is exerted upon expiration only, thereby causing a decreased return flow to the right side of the heart. Pulmonary edema due either to cardiorespiratory disease or gas poisoning is practically the only indication for this form of therapy. It should be used very cautiously in cases of shock since it will likely further decrease blood pressure.

The oropharyngeal catheter delivers 35 to 45 per cent oxygen when flowing at a rate of 7 to 8 liters per minute. It is relatively inexpensive, is simpler and less objectionable than the face mask. The oxygen must be humidified in order to avoid irritation of the pharynx. The placing of the catheter is most important. The distance from the side of the nose to the tragus of the ear is

marked, and with the oxygen flowing the catheter is inserted to the mark. If the catheter is visible in the pharynx, it is withdrawn until it is no longer visible. If it is too deep in the pharynx the patient will swallow oxygen, and if not deep enough the oxygen will be wasted by way of the nostrils.

The oxygen box is very useful, convenient, simple and economical in administering oxygen to infants. With a flow of 6 to 8 liters per minute, the concentration is 50 to 70 per cent. The top of the box is open, but the apron is secure in order to maintain high concentrations. Nursing care is unhampered when this method is used. This apparatus should be kept away from open windows or draughts to avoid rapid loss of oxygen by convection. A small ice cabinet may or may not be used with this outfit.

In the treatment of hypoxia of the newborn 100 per cent oxygen is indicated. This may be given under positive pressure if there is no respiratory movement. Carbon dioxide is contraindicated since there is already an excess. The addition of more carbon dioxide will further depress the respiratory center. The use of analeptics such as coramine and metrazol is dangerous, since they also tend to increase the depression. The oxygen demand of the higher centers is increased by analeptics and the occasional 'pick-up' resulting from their injection is very near the convulsive level.

A discussion of oxygen therapy is not complete without mention of apparatus for oxygen administration in emergencies. A portable apparatus consisting of a small cylinder, a yoke, tubing, a mask and bag should be readily accessible at all times. A more complete type of portable apparatus has a power driven suction unit also and a means of controlling the amount of positive pressure.

Other methods of oxygen administration are more complicated and too expensive for the average patient.

PRECAUTIONS

There are several precautions to be taken in oxygen therapy. All tanks should be securely fastened to the patient's bed or on a tank carrier. Dust, water, oil or grease must be kept away from the connections, since any one of these may cause an explosion when subjected to the terrific pressure of stored oxygen. The tank should be 'cracked' to blow out any foreign matter which may be in the part before attaching the reducing valve. When opening a tank, the valve should be turned slowly until the indicator on the gauge comes to a stop, then the valve is given at least two complete turns. No smoking and no sparking apparatus can be allowed in the immediate vicinity of oxygen-enriched atmosphere. This precaution *must not be minimized* since the safety of others is at stake.

SUMMARY

The physiology of hypoxia reveals the definite indication for early, adequate oxygen therapy. The method of administration is regulated to the individual patient's needs.

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CLIMATE AND RHEUMATOID ARTHRITIS

There are two well established observations in the relationship of rheumatoid arthritis and climate.

The first is that the disease rarely occurs in the tropic zones; the second, the incidence of the disease diminishes as one goes south. However, once the disease is established, the effect of climate is not clearly understood. Although no satisfactorily controlled experiments have been made, it is agreed that rheumatoid patients should avoid northern winters.

The atmospheric changes caused by a storm usually follow a definite pattern. Storms are preceded by a low pressure center and increasing temperature followed by a rise in pressure and a fall in temperature, producing clear, cool weather. These are the weather periods which disturb the body functions of man. During the fall of the outside barometric pressure the body tissues tend to take up water and swell and eliminate it after the storm center has passed.

In an already diseased synovial membrane it is easy to understand the severe reaction on this part of the body, for a pathological synovial membrane such as is found in rheumatoid arthritis is unable to compensate adequately for these sudden changes in weather. The swelling of the affected tissues just preceding a storm and during the low pressure period is frequently intense, causing pain and, at times, hydroarthrosis. Usually, the arthritic experiences considerable relief during the high pressure and cool periods following the storm.—S. Kent Conner, M. D., in Arizona Medicine.

TETANUS IN KANAWHA VALLEY TREATED IN CHARLESTON, WEST VIRGINIA, HOSPITALS

By S. L. SCHREIBER, M. D., F.A.C.S.*
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From June 26th to July 12, 1944, a period of three weeks, five cases of tetanus were admitted to the Charleston General Hospital. This appeared to assume the proportions of a minor epidemic and seemed to indicate more than a mere coicidence. Accordingly, the records of the various hospitals in Charleston were investigated to check the incidence and prevalence of tetanus in that vicinity, since tetanus continues to be a serious disease in spite of available methods for its prevention and treatment. It has been shown by the Bureau of Vital Statistics that tetanus is most prevalent in the Gulf states and its incidence gradually diminishes as one progresses northward and westward, with the exception of the states of Arizona and California.

To refer to tetanus as a more or less uncommon disease does not alter the fact that one fatal case is a tragic happening. The number of deaths from the disease was well over 1,000 annually in the United States until 1939.[14] This figure has been altered to 698 in 1942[19] which implies that the total number of cases was considerably greater, but that the figures still are high. The lower mortality in recent years does not indicate a milder form of the disease, but rather a trend in treatment. The mortality and morbidity are influenced by several factors, as is evident in our small series of cases.

From 1937 to 1944, 12 cases were reported at the Charleston General Hospital. The Kanawha Valley Hospital reported 1 case and Staats Hospital reported 15 cases. St. Francis, McMillan, and Mountain State Hospitals reported no cases. Thus, a total of 33 cases of tetanus, (including the 5 cases referred to previously) occurred. However, only 20 case histories were available for study. These form the basis for this report.

YEARLY INCIDENCE

The yearly incidence of tetanus in the Valley, from the foregoing, was as follows: 1 case in 1930, 1 case in 1931, 1 case in 1938, 3 cases in 1939, 3 cases in 1940, 2 cases in 1941, 3 cases in 1942, 1 case in 1943 and 5 cases in 1944 (until July 12th). The small number of cases reported in the years 1930 to 1938 could have been due to inadequacy of the record systems since tetanus did appear during these years and the thirteen unavailable case records may have covered various periods during these years. Thus, the prevalence is fairly constant and it can be assumed safely that there is an endemic nidus of infection which can develop easily into major proportions.

All of the patients were residents of rural areas or suffered injury on rural highways in the vicinity of Charleston. The residences of the patients with accompanying number of cases were: Bancroft (1), Charleston (7), Route 4, Charleston (1), Dorothy (1), Dunbar (1), Prenter (1), Racine (1), Rand (1), Swansdale (1), and Whitesville (1).

The seasonal variation confirms the observation that tetanus is a disease of the open season since our patients contracted the disease between late March and early October.

VARIOUS ETIOLOGIES

The type of injury responsible for the disease in our series follows the usual pattern with a few peculiarities. There were 5 puncture wounds (3 caused by stepping on nails, 1 caused by the needling of an abscess, 1 caused by snake bite); 2 splinter wounds (1 caused by a thorn); 4 lacerations of the foot by glass, including 2 patients who waded in a creek; 2 abrasions of the leg in automobile accidents; 2 lacerations, 1 of the thumb and 1 of the wrist, caused by machinery; 2 compound fractures with lacerations due to automobile accidents; 1 case as a result of a chemical burn; 1 case following otitis media; and 1 case, cause unknown. The unusual etiologies in this series were snake bite, thorn puncture, self-needling of an abscess, and otitis media. Other unusual but understandable etiologies mentioned in the literature include hypodermic injection of drugs, smallpox vaccination, maggot treatment for osteomyelitis, and minor abrasions of the leg while horseback riding. The patients who cut their feet on glass while wading in the creek may have acquired the tetanus organism after stepping on dry soil, but the possibility of the organism in water is not excluded.

Laceration of the upper extremity, the thumb in one and the wrist in another of our patients (relatively minor injuries), is in sharp contrast to the other types and locations of injuries. It might be of interest to note various etiologies of tetanus as classified according to origin in a large series of cases as reported by Vinnard,[18] the New Orleans group,[4,7,8,16] and others, so that one can be constantly on the alert for this disease. These classifications follow: tetanus neonatorum, following umbilical cord infections; gynecologic or obstetric, following abortions and induced labor;

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surgical, following elective surgery such as extraction of teeth, tonsillectomy, appendectomy, hernioplasty, and hysterectomy, all of which became infected; traumatic, caused by puncture wounds, splinters, lacerations, scratches, burns, bites of animals, compound fractures, crushing wounds, and abscesses; and 'unknown', in which no history of injury could be elicited and no site of infection found.

The age range in our group of cases was from 3 to 62 years. Seven patients were under 10 years of age, three were between 10 and 15 years, two were from 15 to 20 years, three were between 20 and 30 years, one was between 30 and 40 years, and three were between 40 and 60 years, 12 patients, or 60 per cent, being children, confirming the fact that the incidence of the disease is higher in children. This increased susceptibility in children is due to their practice of playing barefoot in any type of soil and filth in which, during the excitement of rough play, they suffer insignificant scratches, minor abrasions or minute puncture wounds which are neglected and unreported to their parents until infection develops.

Sex is no factor and is not of any significant importance, however, five of our group were females, three being between ages 20 and 30, and two being between ages 10 and 15. The remainder were males. As to race, which also is no factor, four were colored and sixteen were white.

INCUBATION PERIODS

The incubation period varied from 5 to 345 days after injury, as follows: seven cases, 5 to 7 days, seven cases, 8 to 14 days, four cases, 16 to 30 days, one case unknown, and one case, 345 days. The duration of active tetanus, or the length of symptoms in days prior to instituting therapy was of significant importance in this small series, in relation to mortality and incubation period. Thirteen sought treatment the first day of onset of symptoms and the seven deaths occurred in this group.

There were 7 deaths in the total number of 20 cases, a mortality rate of 35 per cent.

The incubation periods in the fatal cases were as follows: one patient, 5 days; two patients, 7 days; one patient, 8 days; one patient, 9 days; one patient, 16 days; and one case in which the incubation period was unknown. The incubation periods of those in the group that survived were as follows: one patient, 5 days; two patients, 7 days; one patient, 14 days; one patient, 26 days; and one patient, 345 days. Thus, the incubation period of those who died ranged from 5 to 16 days and of those who survived from 5 to 345 days. One patient was treated the second day of illness after an incubation period of 13 days, four were treated on the third day of illness after incubation periods of 13, 14, 17, and 30 days, and two were treated on the fourteenth day of illness after incubation periods of 7 and 14 days. Of the entire group, three patients were known to have received prophylactic antitoxin, 1,500 units, and one patient was thought to have received such prophylaxis, although this fact could not be established definitely. In passing, 1,500 units of antitoxin is considered inadequate as a routine measure. In major injuries at least 3,000 units should be administered. One of this latter group died sixteen days after the injury (incubation period). He sought treatment the first day of onset of his illness. The remainder received no prophylactic therapy.

The foregoing statistics confirm the observations of Boyce and McFetridge,[4] i. e., that the relationship between the incubation period and the mortality is a tendency rather than a fact. The incubation period of these observers' cases was from 2 to 60 days in those patients who lived and from 3 to 60 days in those who died. Huntington, Thompson and Gordon,[10] and Moore and Singleton[14] conclude that a more reliable index of grave prognosis is a rapid progression of symptoms, that is, the severity of the disease. Therefore, most cases in which medical treatment is delayed after onset of the disease usually are of a mild nature. The type of injury responsible for the portal of entry of the disease is interesting and corroborates the experiences of Vinnard,[18] Boyce and McFetridge,[4] Graves,[9] Gessner and Adiger[7] and Graffagnino and Davidson,[8] who have summarized the series from the New Orleans Charity Hospital in which 1,350 patients were treated from 1906 to 1944. This, together with the series reported by Vener and Bower,[16,17] from the Los Angeles County General Hospital, Moore and Singleton[14] from the John Sealy Hospital, and others, indicates that tetanus develops from insignificant scratches, minor abrasions and minute puncture wounds.

When it is considered how many such injuries the average individual may receive during the year, it seems illogical to administer antitetanic serum for each injury, and in so doing promote the possibility of serum reaction, which probably explains why the majority of such cases do not receive prophylactic antitoxin. The obvious answer to this problem is active immunization with toxoid. However, returning to the study of the types of wounds from which most cases of tetanus have developed, the following types, listed

in order of importance, are most commonly responsible: puncture wounds by nails and splinters, secondarily infected or suppurating wounds, infected abrasions and burns, subdural lacerations, and infected surgical incisions. These injuries, particularly in tetanus-prevalent areas, establish the criteria for appropriate wound absolution and prophylactic antiserum administration.

The small number of cases reported cannot be subjected to complete statistical analysis for the many uncontrolled factors exclude all but the most general conclusions. However, these tend to corroborate the experiences reported in the literature as well as to call attention to and emphasize the precautions which should be borne in mind when handling even the most trivial of injuries.

In regard to dosage of antitoxin administered, our patients received a total of from 24,000 to 400,000 units. Dosage properly will be discused under 'therapy' but the dosage administered to the fatal cases by the usual methods is important because on the surface it appeared adequate and by contrast those who recovered received a comparable range of antitoxin. Thus, the various factors in the cause of death must be evaluated beginning with the length of incubation period, intensity of the disease or symptoms, sensitivity of the patient to the serum, state of nutrition, associated complications and finally lethal fixation of toxin in the central nervous system. Of the deaths, F. A., age 4, received 50,000 units of antitoxin; T. Y., age 8, received 64,500 units; L. A. P., age 64, received 70,000 units; E. R., age 10, received 100,000 units; L. S., age 49, received 140,000 units; J. P., age 17, received 210,000 units, and A. S., age 28, received 240,000 units.

PATHOLOGY

The literature reports nine strains of Clostridium tetani, each producing a pathologic water soluble toxin. The organism must be implanted in abraded skin to invade the host. The bacillus requires a media of necrotic tissue and the presence of facultative anaerobic Streptococcus hemolyticus and Staphylococcus aureus to be most active, i. e., in contaminated wounds. This type of symbiosis produces a high virulence, because the infecting secondary invaders utilize the available nutriment and oxygen, and create a favorable anaerobic atmosphere. The presence of Bacillus tetani spores in a sterile wound will not cause tetanus and the organism can remain quiescent or dormant in the tissues for as long as 882 days[17] (so-called latent tetanus), so that the original condition or trivial injury is forgotten. This then can be lighted by a minor injury as the case presented of ununited compound fracture suffered in an automobile accident, in which tetanus occurred following surgery 345 days after the accident.* The patient had received appropriate prophylactic therapy at the time of his injury, but the dormant spores were unaffected, and were activated following surgery. He recovered on active therapy.

For the same reason, in contaminated wounds which result in gas gangrene, B. tetani, because of an aerobic field, remains inactive until such infection subsides. It follows that deep lacerations and compound fractures, as well as puncture wounds which seal over, are dangerous, and that removal of the focus of infection, which implies wide excision of the original injury, is the basis of rational prophylaxis. It should be noted incidentally, that B. tetani has been reported as being a normal inhabitant of the human alimentary tract, which explains the occurrence of the disease following elective intestinal surgery.

After a variable incubation period of from 1 to 882 days, but usually ranging from 7 to 15 days under favorable anaerobic conditions, the bacillus, in multiplying, as proven by Abel,[1,3] liberates an exotoxin which diffuses through the muscle and acts on the neuromuscular end organs or synapses to produce the symptoms and cause a state of maintained contraction which may persist for months. From the focus of infection, the toxin enters the lymph and blood stream and from there is taken up by specifically reactive cells in the cord and medulla and in the motor end organs of the skeletal muscles. In the central nervous system the toxin is altered to form a secondary toxic substance not neutralized by antitoxin serum. This secondary substance circulates in the blood and causes death by interference with the essential part of the respiratory system. Once the lethal amount of hypothetical toxin is formed, no known treatment will save life.[1,3,6]

This fact has been established by cross circulation injection experiments in animals, all of whom died. However, it led to an alternative theory that tetanus toxin alters a part of the nervous system and the altered tissue removes from the blood stream some constituent as an enzyme or hormone which is essential for life. However, since in humans there is no way of telling whether a lethal dose of toxin has been fixed, the clinician should continue to use antitoxin in local and central tetanus in the hope that

*From the service of Dr. Randolph L. Anderson at Staats Hospital, Charleston, West Virginia.

such fixation of the toxin by the tissues has not yet occurred.

DIAGNOSIS

It must be remembered that every symptom of tetanus is due either to a persistent or intermittent muscle spasm affecting various groups of muscles, from slight rigidity to horribly painful and exhausting convulsive contractures of practically all the voluntary muscles of the body, produced by increased muscle tone and hyperirritability. The sensorium is clear. If tetanus is considered in the differential diagnosis of any patient presenting two or more of the following symptoms, very few cases will be misdiagnosed: trismus (occurs in 67 per cent of cases), abdominal pain, backache, convulsions (each occurs in 25 per cent of cases), spasticity, stiff gait, stiff neck, dysphagia, and local spasm (in approximately the order named). In the presence of trismus or spasm of the masseter muscle, which is the classic symptom, the diagnosis may be suspected and confirmed by the history of a recent wound or injury, and the finding of an associated pattern involving spasms including dysphagia, stiff neck, generalized rigidity and convulsions. This is most typical. However, when other groups of muscles are affected the usual clear clinical picture of tetanus is distorted and when the chief complaint in the absence of trismus is convulsions, abdominal pain, stiff neck, stiff gait, backache, dysphagia, spasticity or generalized rigidity, and local spasm, such symptoms and complaints occurring either isolated or in combination, the diagnosis becomes difficult.

The errors in diagnosis or tentative diagnosis, as gleaned from the literature, due to atypical clinical pictures of tetanus and the misleading complications of the primary disease which acts as a portal of entry to B. tetani, confuses or delays diagnosis of tetanus. These are recorded to illustrate the difficulties encountered in diagnosis. Such errors also occurred in some of our cases, viz.: no diagnosis, worms, meningitis, hysteria, chronic otitis media, pneumonia, cellulitis of the face, mastoditis, and carcinoma of the esophagus. In addition, the patient may enter with or develop complications during the course of his disease, such as pyogenic infections, stomatitis, bronchitis, pneumonia, otitis, purpura, pyuria, compression deformity of the vertebrae, and barbitalism, thus adding further confusion.

The prominent symptoms and the order in which they occurred in our patients, were as follows:

L.A.P.: trismus, irritability, lack of muscular control.
C.C.: trismus, stiff neck, abdominal rigidity.
E.M.W.: trismus, backache, stiff leg, abdominal rigidity, inability to walk.
H.D.: painful neck, trismus.
F.B.A.: stiff neck, opisthotonus.
J.P.: trismus, convulsions.
H.R.: trismus, rigid abdomen, spastic rigid extremities.
L.L.H.: painful abdomen, convulsions, trismus, sore throat.
W. B.W.: soreness of ears, sore throat, trismus.
D.V.W.: chill, fever, pain behind knees, stiff neck.
A.M.: trismus, stiff neck.
A.S.: trismus, stiff neck.
L.E.S.: trismus, stiff neck, rigid abdomen.
E.R.: irritability, spasticity, stiff limbs, stiff neck, trismus.
D.C.: rigidity of right leg, inability to walk, trismus.
E.R.: fever, irritability, trismus, spastic rigid abdomen.
T.Y.: trismus, stiff neck, inability to speak plainly.
S.M. trismus, spastic rigid muscles (history of a fall), headache, convulsions.
B.K. soreness of end of tongue, spastic stiff legs, dizziness and weakness (history of a fall).
R.L.: spastic stiff lower extremities, stiff back, rigid neck, painful back and abdomen.

The complications developing during the course and treatment of the disease in our series of cases were exfoliative dermatitis, urticaria, disorientation by barbitalism, relapse of spasm and convulsions, osteomyelitis, pulmonary edema, aspiration pneumonia, and meningismus.

THERAPY

Therapy properly begins with prophylactic measures before wounds are contracted. This is done by active immunization with toxoid. War veterans have been so immunized. In cases of infants such immunization is combined with diphtheria and pertussis.[13]

The army injects 1 cc. of toxoid at tri-weekly intervals for three doses, followed by a 1 cc. booster at the end of one year or 1 cc. in the event of a major injury occurring after six months or when tetanus is considered a possibility. Long,[12] reports that four cases of tetanus occurred in the entire army, none of which was in an immunized individual. There was no tetanus as a result of battle casualties. He further states that antitoxin was not given for prophylaxis unless there was reason to doubt that the toxoid

series was given, whereupon antitoxin was given together with the toxoid.

The advantage of active immunization with toxoid is that the immunity conferred lasts for several years and can be quickly increased by a booster dose. Also, animal serum protein sensitivity is avoided. An individual who has received two doses of toxoid can, within one week after receiving a third dose, produce a greater amount of antitoxic antibodies than can be provided by a prophylactic dose of tetanus antitoxin. Workers have shown that 0.01 to 0.2 units of antitoxin per cubic centimeter of serum is necessary for protection, and tetanus toxoid, after the series is given, yields 0.1 to 1.0 units per cubic centimeter. After a booster dose this rises to 2.0 units and then slowly declines. Therefore, an immunized person needs toxoid, not antitoxin, at the time of injury. Any individual about whom there is doubt as to whether he has received toxoid or has received but one dose of toxoid prior to his injury, needs antitoxin plus toxoid.

It has been stated by some observers that toxoid does not confer total immunity, since the titer cannot be accurately determined and, like diphtheria toxoid, immunity may not be conferred. In addition, implantation of a heavy dose of B. tetani may overcome the host resistance. Therefore, the answer is to administer tetanus antitoxin for its passive immunity effect with the tetanus toxoid which will fortify the residual active immunity.

The question frequently arises as to whether or not the immunized patient with a minor abrasion should be given prophylactic antitoxin. All individuals suffer minor lacerations during their lives, which is a splendid reason for toxoid immunity, but it is clearly illogical to suggest that antitetanic serum be given for each such injury. The answer obviously depends on judgment, locale, i. e., endemic tetanus-prevalent area, type of wound, whether puncture or splinter, proper hygiene of the wound by scrubbing with soap and water, and observance of the patient for at least the average incubation period of the disease. When antitoxin is given, it should be remembered that the passive immunity produced lasts from eight to ten days, and therefore the dose should be repeated at such intervals in cases of suspicious wounds or those remaining chronically infected for long periods of time. The reasons have been discussed under pathology. Failure to observe this precaution perhaps is the explanation of those cases in which prophylactic serum fails to furnish adequate protection. A second reason is that the ordinary prophylactic dose of 1,500 units often is inadequate, especially in compound fracture cases. In these cases 3,000 units should be administered.

The methods of preventing tetanus are proper immediate surgical treatment of injuries, passive immunization of injured patients with tetanus antitoxin and active immunization by tetanus toxoid. The futility of surgical excision of the site of experimental tetanus in animals once symptoms have appeared, has been conclusively demonstrated by Abel and his co-workers.[2] Yet others feel that not to excise the wound is both incorrect and unfortunate, for recurrent tetanus occurs. This may be done after the tetanus has been controlled if the wound continues to suppurate, to break the link of entry of antitoxin into the general circulation. Cauterization of wounds is illogical treatment in that it brings about the very environment in which the tetanus organism thrives.

From a review of the literature, it appears that very little has been added lately to the active therapy of tetanus, except a rationalization of treatment. Studies in improved mortality rates show the influences of the following factors: (1) larger doses of antitoxin administered more rapidly and earlier, (2) adequate cleansing and debridement of wounds, (3) better and more complete sedation, (4) maintenance of electrolytes and caloric and fluid intake, and (5) more careful nursing and closer medical supervision of the patient.

Treatment of the disease is essentially neutralization of the circulating toxin which is copiously liberated by the organism irrespective of the age of the patient. Penicillin and other drugs are therefore of no value. In the central nervous system, as noted, tetanus toxin is altered by some irreversible process, to produce a new toxic substance which is liberated into the circulation and is unaffected by antitoxin. Once a lethal amount of toxin has been fixed in the central nervous system, no amount of tetanus antitoxin will influence the fatal outcome, but since there is no method of determining in any given case when this lethal fixation has occurred, treatment should continue. Therefore, since only the circulating tetanus toxin can be neutralized, a continuous supply of antitoxin is needed rather than large infrequent doses. The consensus is that the initial dose of tetanus antitoxin should be from 40,000 to 60,000 units intravenously or intramuscularly, with 20,000 units about the wound. Many patients have recovered with moderate doses of 40,000 to 60,000 units of antitoxin. Pratt[15] has shown that an 80,000 unit dose of

antitoxin was no more effective than one of 30,000 units; however, Vener and Bower[16] advise a minimum of 200,000 units.

If the concept of a constant progressive increase to a fatal amount of antitoxin-resistant toxin is kept in mind, as discussed in pathology, then the importance of the immediate administration of sufficient antitoxin by the most effective route becomes apparent, for at any moment the fatal irreversible toxin may be accumulated and the disease then is transformed from a curable to an incurable one. At this point then, comment on the method of administration of the antitoxin warrants consideration. Intravenous treatment may give a fatal reaction but a single dose is theoretically advantageous and practical to neutralize circulating toxin.

ANTITOXIN: METHOD OF ADMINISTRATION

In the intravenous administration of antitoxin, Dietrich,[5] in treating children, has noted an important relationship between the time or reaction of administration of the first dose of antitoxin and death. In sensitivity-free tested individuals who appeared with moderate tetanus in one to ten days after incubation periods of seven to fourteen days, intravenous antitoxin produced hyperpyrexia, a severe shock-like picture, cessation of convulsions and death within thirty-six hours but usually in three to fourteen hours. The cause of death was medullary and cerebral edema. Adrenalin was of no value and all those who recovered after a critical stage with intensive symptomatic treatment, reverted to tetanus.

Intramuscular treatment is safe and adequate and there is practically no reaction to this method of injection of antitoxin, but there is a twelve to twenty-four hour lag in the concentration of antibodies in the blood as compared with intravenous administration. When time is an important factor in neutralizing the circulating toxin, the intravenous method is the ideal one for the first dose, then treatment is continued by way of the intramuscular route. Prior to injection it is wise to test for serum sensitivity and institute subsequent proper procedures. In severe serum sensitive cases a rapid desensitization procedure can be carried out in about two hours and then intravenous antitoxin diluted with saline solution to which adrenalin has been added can be given. Standard desensitization technique then is continued.

The intrathecal method is mentioned only to be condemned. It is unsound and dangerous and has no advantages over the intravenous route. Intrathecally, a marked edema of the brain is produced by horse serum with symptoms of bulbar poliomyelitis, meningitis or medullary disease. With this there is a tremendous increase in the spinal cell count ranging upward to 4,199 cells, mostly polymorphonuclears (89 to 98 per cent)[5] indicating that a severe sterile inflammatory process results.

Ordinarily, the first dose of antitoxin is 40,000 to 60,000 units of serum intravenously, with an equal simultaneous dose intramuscularly. The present trend is to increase the initial dosages of serum since there appears to be a maximum effective initial dose of serum which is around 80,000 to 100,000 units. Half of the initial dose should be given intravenously. Firor[6] has shown that 50,000 units intravenously will neutralize as much toxin as can be present in the blood stream. Larger initial doses do not have any effect on lowering the mortality rate but tend to increase it instead. It is the opinion of Vinnard[18] that the initial doses are the most accurate criteria for a comparison of therapeutic results and an important factor in the decrease of mortality rate.

Some physicians administer part of the intramuscular dose about the site of the wound. Subsequent administrations usually continue with 10,000 to 40,000 units of antitoxin daily for about 8 days, such further amounts given to be determined by the degree of spasticity of the patient, i. e., the severity of the disease. Since the tetanus patient obviously is a surgical emergency case and demands constant observation, attention and judgment as to emergency treatment, a responsibility obviously beyond the nurse's ability, it has been suggested by Spaeth that a team of doctors be made responsible for the observation and care of tetanus patients. This suggestion has definite advantages which are apparent. Any hospital admitting patients with tetanus should have nurses trained and available in the management of this disease.

Whereas the antitoxic serum prevents further toxin fixation, sedation combats the neurologic effects of the toxin already bound to the central nervous system and spares the patient the exhaustion that may be the deciding factor in his outcome. Sedation is safe, desirable and life saving in appropriate doses except in the presence of serum reaction. The ideal sedative provides a rapid and deep sedation without loss of the cough and pharyngeal reflex, with a minimum of respiratory depression, with sufficient low toxicity to permit its use in large doses for an extended period, and with a rapid excretory rate to prevent cumulative effects.

Therefore, of the various sedatives, the barbital derivatives are employed, e. g., phenobarbi-

tal compounds for sedation orally, the sodium salts intravenously for convulsions, and avertin rectally for restlessness. Other drugs which have their usefulness and their advocates are chloral hydrate orally or rectally for sedation, paraldehyde for convulsions, and magnesium sulfate intramuscularly for restlessness. Curare or intocostrin has no effect on the course of the disease other than to relax muscle spasm temporarily, one hour or less, and the conclusion is that the use of this drug is accompanied by more hazards and toxic reactions than are justified in view of the short symptomatic relief obtained. However, curare in wax bases (of the type prepared for penicillin), due to a slower and more gradual release, may have a more prolonged action in controlling tetanic spasms. Its usefulness in certain spastic conditions has been demonstrated. This may bear investigation.

The barbitals may cause the development of side effects. Opiates are to be avoided due to the marked respiratory depression as a result of their use. General inhalation anesthetics should be avoided also because they favor the development of pulmonary complications in a spastic individual.

The administration of antisera, sedatives, and wound toiletry including debridement has been discussed. There are no hard and fast rules for further treatment excepting the general principles reported in the literature which are paramount in reducing mortality. These are:

1. Adequate fluid and caloric intake.
2. Good nursing care and closer medical supervision.
3. The sulfonamides and penicillin in therapeutic doses for treatment of secondary or associated complications.
4. Isolation to avoid noise which initiates spasms and convulsions.
5. Aspiration of nasopharyngeal secretions.

CASE REPORTS

CASE 1.—This case is of interest because two boys involved in the same accident received almost identical injuries. Both received prophylactic serum and in one, tetanus developed from which he died 19 days after the injury and 3 days after the onset of symptoms. The other patient did not contract tetanus. The patient that died had a Steinman pin inserted in a fracture of the leg, while the friend's similar fractured leg was treated by cast application because he was in coma twenty-six days due to a skull fracture. However, he had a persistent draining sinus from a bone infection for which he should have received further treatment by antitoxin. Debridement undoubtedly removed any focus of B. tetani, but secondary invaders entered the wound.

The conclusion from this case is that a dose of 1,500 units of antitoxin is inadequate. The dose should have been repeated in 8 to 10 days after injury. An individual suffering any major injury or compound fracture, especially one requiring operative procedures such as the insertion of pins, should be immunized with toxoid as well as the antitoxin to combat the accidental implantation of B. tetani in the deeper tissues.

J. P., a 17 year old white male, was admitted to Staats Hospital with his friend, G. T., September 10, 1939. Both boys had been struck by the same car. J. P. had a compound comminuted fracture of the left leg, a great deal of soft tissue damage and multiple abrasions. G. T. sustained a compound comminuted fracture of the right leg, a fracture of the skull and abrasions and lacerations. In addition, he was in coma twenty-six days. Both patients received thorough debridement and cleansing of their wounds, 1,500 units of prophylactic antitoxin, and sulfonamides.

A Steinman pin was inserted and traction and cast applied in the case of J. P. He was discharged September 24th and was readmitted September 26th, sixteen days after the injury, with stiffness of the jaws and inability to open his mouth. On September 27th he began having convulsions, and on September 29th he expired. He was actively treated and received a total of 210,000 units of antitoxin intravenously and intramuscularly and 5,000 units intraspinally and, in addition, nembutal, avertin and evipal.

G. T., after a stormy course, was discharged October 29, 1939, with a persistent draining sinus. His fractured leg had been treated by cast application.

CASE 2.—C. C., a 14 year old white male was admitted to Staats Hospital October 14, 1941 following an accident caused by his truck skidding into a telephone pole. He suffered a through antero-posterior laceration of the left foot, extending from the web of the great toe six inches toward the ankle with denuding of the periosteum of the first metatarsal bone. X-rays revealed no fracture. The wound was thoroughly cleansed and debrided and 1,500 units of antitoxin administered. November 9th, twenty-six days later, he complained of stiffness of the jaws followed in several hours by rigidity, inability to open his mouth, and slight stiffness of his neck. He had no temperature, increased pulse, or other muscular rigidity. Twenty thousand units of antitoxin were immediately admini-

stered intravenously and the patient at once went into shock which was relieved by adrenalin. Antitoxin was continued intramuscularly in 20.000 unit doses every six hours with 5 cc. of 50 per cent magnesium sulfate. Two days later abdominal rigidity and slight convulsions developed. Antitoxin was increased and he recovered. Osteomyelitis with draining sinuses developed in the foot.

This case illustrates several important complicating factors, viz.:

1. The dose of 1,500 units of antitoxin, as in the preceding case of bone injury in which there was implantation of the organism in the deeper tissue, was inadequate prophylaxis and should have been repeated every 8 to 10 days as long as the wound was draining, or toxoid prophylaxis should have been begun simultaneously with the first dose of antitoxin.

2. Adrenalin should be instantly available for emergency injection with each intravenous administration of any foreign protein since reactions may develop in the presence of a negative sensitivity test.

3. Obviously 20,000 units of antitoxin for the first dose was inadequate since the progress of tetanus was uncontrolled.

CASE 3.—This case is an unusual one of prolonged latent tetanus of 345 days, associated with nonhealing due to an undiscovered syphilis and like the preceding two which also had bone injuries, illustrates the inadequacy of the routine administration of 1,500 units of tetanus antitoxin and the value of tetanus toxoid.

H. D., a 38 year old white male, was admitted to Staats Hospital May 11, 1939, with compound fractures of the left leg and left forearm. Five days previously he had fractured his right fifth metacarpal bone. The wounds were cleansed and debrided, 1,500 units of antitoxin administered, a Steinman pin inserted, and a cast applied to the leg. Nonunion resulted. On April 16, 1940, under open operation, the bone was drilled, ligatures inserted about the fracture, and a cast applied. April 21, 1940, 345 days after the injury and seven days after the operation. he complained of pain in his neck, stiffness of the jaws and inability to open his mouth. The cast was immediately removed, the wound opened, sutures and ligatures removed, and 30,000 units of antitoxin with adrenalin administered at once and continued for a total of 110,000 units with appropriate sedation. He was discharged April 29th, still with nonunion. On February 7, 1941, preceded by tetanus toxoid immunization and 1,500 units of antitoxin, a sliding bone graft operation was performed, resulting in nonunion. A similar procedure and bone graft operation were carried out September 21, 1941, again resulting in nonunion. His serology was found to be positive and following appropriate antiluetic therapy, union took place.

CASE 4.—The following case is unusual from the standpoint of etiology since tetanus occurred following a snakebite.

H. R., a 28 year old white male, was treated June 7, 1940 at the Charleston General Hospital for copperhead snakebite of the left index finger. A crucial incision of the snakebite was performed and 10 cc. of antivenin injected. Generalized urticaria developed four to five hours later. On June 24th, seventeen days after the bite, the patient returned complaining of malaise, generalized aching, stiffness of the hips and difficulty in opening his jaws. He was admitted to the hospital June 25th, given 30,000 units of antitoxin, stated he felt better, and against advice left the hospital June 26th. He returned June 29th complaining of increased rigidity, irritability and restlessness. A total of 90,000 units of antitoxin was administered with marked decrease of the rigidity by July 1st, but on July 7th abdominal rigidity recurred. On July 14th, he was completely disoriented with irrational laughter, excitability and extreme nervousness which subsided when the phenobarbitals were withdrawn.

CASE 5.—This case is of interest because of the fatal development of tetanus following an acid burn of the buttock.

L. E. S., a 49 year old white male, was admitted to the Charleston General Hospital September 4, 1942, with stiffness of the jaws, a stiff neck and a rigid abdomen. He had suffered an acid burn of the lumbosacral region August 26th, nine days previously. He was given a total of 140,000 units of tetanus antitoxin with large doses of chloral hydrate and avertin, but died September 12th, eight days after the onset of symptoms, from pulmonary edema.

CASE 6.—This case is interesting from the standpoint of diagnosis.

O. V. W., a 21 year old white female, was admitted to the Charleston General Hospital March 28, 1941, with axillary lymphangitis and lymphadenitis, chills, fever and pain behind the knees. Two weeks previously she had needled an abscess of her right thumb which had developed from an unknown cause.

Examination revealed tender enlarged axillary glands, moderate stiffness of the neck, photo-

phobia, myoclonic spasm, bilateral Kernig signs and absence of all deep reflexes (the patient stated she never had deep reflexes). Culture from the finger revealed anaerobic Staphylococcus aureus and hemolytic facultative Bacillus anaerobicus alkaligenes. Spinal puncture showed total protein of 190 milligrams, two lymphocytes, and the culture was negative. The diagnoses considered were meningitis, encephalitis and tetanus. She recovered following administration of a total of 120,000 units of tetanus antitoxin.

SUMMARY

1. Twenty cases of tetanus out of thirty-three occurring from 1930 to 1944 are discussed, indicating a constant yearly prevalence in this locale.
2. Of the 20 cases discussed, there were 7 deaths, a mortality rate of 35 per cent.
3. The incubation period ranged from 5 to 345 days and was about the same in those cases ending fatally as in those ending in recovery.
4. Three patients definitely and one questionably received 1,500 units of prophylactic tetanus antitoxin. The prophylactic dose preferably should consist of 3,000 units.
5. The importance of immunization with tetanus toxoid is discussed.
6. The pathology of antiserum resistant toxic formation as a guide to therapy is discussed.
7. Initial treatment consisting of at least 80,000 to 100,000 units of antitoxin of which 40,000 to 60,000 units are to be given intravenously and the balance intramuscularly appears to have the maximum effect in the cure of tetanus.
8. Wound toiletry, including debridement of foci of infection, adequate sedation, and the application of general therapeutic and nursing principles are important factors in the reduction of mortality.

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LOBOTOMY

Prefrontal lobotomy or leucotomy is a neurosurgical procedure which has proven itself to be of benefit to a proportion of individuals among those selected for this form of treatment in certain types of neuropsychiatric disorder or disease of the personality.

One of the chief aims of psychotherapy, whatever its method, is to change people. This goal is not readily attainable because the human personality is rooted in a genetic pattern that parallels the fixed character of somatic individuality. The individual personality is conditioned and modified by environmental experience that furnishes the data through which the psychiatrist interprets the patient's difficulty and decides what means he will use to effect possible change. He may choose to work indirectly through the environmental experience of the subject; he may choose drugs or talk, or some kind of shock treatment. Alteration in the subject's reaction to his disease, which brings about sustained improvement in his behavior and social adjustment, is the ultimate goal.

Lobotomy appears to cause a more permanent change in the deranged personality than any other form of treatment. Whether or not the outcome is for the better depends mainly upon the selective judgment of the neuropsychiatrist.—Hannibal Hamlin, M. D., in Rhode Island Medical Journal.

THE SCHIZOPHRENIC CHILD

Very young children of apparently normal intelligence are often put in insane asylums. Bradley, of Providence, Rhode Island, has studied a group of 138 maladjusted children admitted for psychiatric study to a children's institution in the attempt to discover the beginnings of psychoses. The pediatrician, he says, usually is first consulted about these children, or should see them first.

Bradley defines psychosis for his paper as "a severe mental disturbance in which all the usual forms of adaptation to life are involved and in which disorganization of the personality is extreme." He lists eight major behavior characteristics as especially prominent in children diagnosed as having schizophrenia or dementia praecox and gives the order of their frequency and importance as follows: Seclusiveness; irritability when seclusiveness was disturbed; day dreaming; bizarre behavior; diminution of personal interests; regressive nature of personal interests; sensitivity to comment and criticism; and, physical inactivity.

By these criteria children as young as three to four years were diagnosed as schizophrenic. The children were believed to be normal in intelligence from their ability to handle their clothing and objects around them. Bradley attempts to go into the earliest history of the schizophrenic children, noting that psychiatric literature contains only two long term studies of the development of children of this type. The paper contains no report of the success or failure of treatment.

The characteristics noted are of interest as qualities to be observed by physicians, and eventually evaluated. Any one of these considered separately of course, might belong to a normal person, or to a genius. As to seclusiveness, the first trait listed and thus the most important, man is naturally gregarious but the man who can keep his own council is well thought of in business circles and the trusting "good fellows" are rarely outstanding in history. Irritability is the first and dominating characteristic of most persons for whom things are not going well. Day dreaming is the credited favorite pastime of adolescence. As a bizarre behavior, "All the world is queer but thou and I." Among humans there is a natural limitation of personal interests according to ability and opportunities, and the jack-of-all trades is notoriously ill thought of among specialists. As to regressive interests, the father playing with his boy's Christmas train or taking him to the circus is viewed favorably. Nonsensitive or "thick-skinned" persons are criticized in any group. Physical inactivity or laziness occurs in many persons from pure discouragement, and geniuses in their childhood were often poor students and poor household helpers. Industry is often a question of the individual's finding something that he does well.

These comments are intended merely to emphasize the danger of attempts at early recognition of mental disease. Although observation of the child's social habits and mental outlook are an essential part of pediatric practice, alertness in "early diagnosis" of psychosis is the last thing to be desired. By its indefiniteness it is impossible to combat such a label, which immediately adversely affects the whole environment of the child. The neurotic pigs, which did not know whether the ringing of the bell meant food or a severe beating, and immediately developed most of the qualities listed above, must be kept in mind.

When a child's behavior seems pathological, the environment should be intensively scrutinized and the parents or guardians apprised to change their methods. The experimental production of psychoses in animals and humans puts full responsibility upon the environment.

Normal mental development requires first of all continuous kindliness and consistency on the part of parents; and these qualities are not inherent in all adults.—Southern Medical Journal.

THE SKIN AND PSYCHOSOMATIC DISORDERS

That which is obvious frequently defies detection. Edgar Allan Poe utilized this theme in his story, "The Purloined Letter." The annals of science are replete with examples in which simple explanations were neglected in the search for more complex causes. This is not new. All of us at one time or another have disdained simplicity, being seduced by the lure of a more intricate etiology. With the scales finally removed from our eyes, we meet these situations with trite remarks: "As plain as the nose on your face," "Can't see the trees for the forest," or "That's so simple, why didn't I think of it before?"

If one pauses to think, it becomes obvious that the mind can physiologically influence the soma. For example, uncomplicated syncope is characterized by changes in the soma that are psychic in origin. And more to the point, some chronic fainters will explain that they always faint at the sight of blood. The mind can induce a flow of tears. Some criers will tell you that they always cry when they hear sad music. A broiled steak before the nose of a hungry man will increased the flow of saliva. Embarrassment is accompanied by dilation of the arterioles of the face. The flushing and increased warmth are measurable, concrete and somatic. Tachycardia, clammy perspiration, dry mouth, at times diarrhea, goose pimples, dilated pupils, at times dribbling of urine, elevated blood sugar and dyspnea are the somatic manifestations of fear. Elevation of blood pressure may be found in rage. Convulsive movement of the face and diaphragm are present in laughter. These somatic responses to the psyche are so obvious that they are indisputable.—James Clark Maloney, M. D., in J. Michigan St. Med. Soc.

EXPECTATION OF LIFE FOR DOCTORS

The expectation of life for physicians in the United States is essentially the same as that for the general white population at the same ages, according to a study by the Metropolitan Life Insurance Company based upon the records of deaths among active and retired physicians in the files of the American Medical Association. The study covered the five-year period, 1938 to 1942, inclusive.

The average male physician entering his profession at age 25 has 43½ years of life before him. This represents roughly the average professional career of a physician under current conditions of mortality. Upon reaching age 35, he still has, on the average, almost as many years remaining as he has already lived. At age 45, the average physician may expect to live an additional quarter century, and at 65, often regarded as retirement age, he may still look forward to almost 12 years of life.

Women physicians start out with an advantage of 3½ years over the men at age 25, but this margin is reduced to less than 1½ years by age 65.—Statistical Bulletin.

The President's Page

Looking back over the past year in which I have served as president of the State Medical Association, an assignment which I approached a year ago with some trepidation, I find now it has been truly a great adventure made pleasant by wholehearted support of the Association's membership and my fellow officers. The greater part of the work has been borne by our efficient executive secretary, Mr. Charles Lively, and to him and various committee members and others who have come to my assistance I give thanks and express my appreciation.

The problems facing the Association this year have been largely those of the present and future economic status of medical care. State medicine is an ever present specter. I have tried to point out that the threat to our present system can be avoided only by the willingness of the medical profession to correct those weak spots in the system which provide ammunition for the proponents of socialization.

The care of the medically indigent is without question a burden which has to be borne by taxation at both the federal and state levels, with control as nearly as possible at the state level. Medical care for those who do not fall in this class should be provided on a prepayment plan. Many such plans are already in operation under the sponsorship of medical societies, and the profession should support them to the fullest extent. If the control of these plans should be lost through lack of interest or non-support, we would lose one of our strongest weapons.

The distribution of hospital beds and doctors throughout the country is undergoing a rather careful survey, and it behooves the medical profession to cooperate to the fullest extent in this study. I have advocated the establishment of ambulance services in sparsely settled areas rather than the building of small hospitals which the community could not support.

As I write my last Page, even at a late date I should like to pay tribute to the work which the wives of doctors are doing. Just recently I had the good fortune to talk to Mrs. F. Carl Chandler, president of the Woman's Auxiliary, and I was very much impressed with her genuine enthusiasm. As everyone knows, the Auxiliary this year is sponsoring an essay contest open to all high school students in the State. The subject of the contest is: "The Proposed Cost and Implications of Socialized Medicine." The project is well timed and should stimulate interest on the part of students and their parents in a movement in the country which would not only impair the best medical care in the world but might be the entering wedge to a socialized state. The chairman of the contest is Mrs. D. E. Greeneltch of Wheeling. To defray the cost of the contest it was proposed that each member of the State Medical Association make a voluntary contribution of $5, and on Nov. 1st, I mailed a letter to the secretary of each component society asking his cooperation. I am sure the cost factor has already been taken care of, and it becomes our duty now to support to the limit the efforts of the Auxiliary in stimulating interest in the essay contest in the various high schools of the state.

And now, looking forward, I think the State Medical Association is fortunate in having Tom Bess as its incoming president. I understand Doctor Bess is not tied down to the routine practice of medicine and that he is going to be a full time president. That is an ideal arrangement. The best luck I can wish Tom Bess is that he will have the same wholehearted support I have had, and I am sure he has no worry on that score.

W. H. H. Clark

President.

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CHRISTMAS, 1947

We wish it were possible to see all of the members of the West Virginia State Medical Association during the ne t three weeks, for we would then be able to say in person what we now put into print.

Ours is a simple message and one th t is used universally at this season of the year. The sentiment is ages old, but nevertheless just as sincere and expressive today as it was centuries ago. The publication committee joins with the headquarters staff of the West Virginia State Medical Association in washing for all the members and their families a Merry Christmas and a Happy New Year.

A DIFFERENT KIND OF MEETING

The general practitioner is just about to come into his own. Heretofore literally left out in the cold so far as proper recognition is concerned, the door has at last been opened, and he is to have his day at the mid-winter meeting of the American Medical Association at Cleveland.

The House of Delegates will meet January 5 and 6, and a two-day scientific session, with a program designed to appeal to the general practitioner, will follow on January 7-8. The step the board of trustees has taken will meet with the approval of all of the members of organized medicine. There has been, is, and always will be need for the general practitioner, and it would be a sorry day for the people of America if the "family doctor" were permitted to pass into oblivion.

Many West Virginia doctors in general practice will undoubtedly take advantage of the opportunity th t will be presented at the Cleveland session for the open, full and free discussion of problems which particularly affect them. The scientific program will include papers by prominent speakers and the meeting generally will be of value for the doctors who are now, or who may hereafter be engaged in general practice.

OUR NURSING NEEDS

One of the great needs of medical care today is an increase in the number of available registered nurses. So acute is the need that the American Medical Association has appointed a committee to investigate the situation and suggest remedial measures. Dr. Thomas P. Murdock of Meriden, Connecticut, is chairman. This committee is making a nursing survey of the entire United States preparatory to submitting a report.

In the meantime it would be well for the local nursing associations and the local medical societies to see that the claims of nursing and the opportunities the profession affords are presented in proper prospective to the senior classes in the high schools of the country. Certainly in the high school age most individuals choose a calling and at least the senior classes could be properly approached by representatives of the nursing and medical professions. Dr. Murdock's Committee will present a long range program for meeting the nursing needs of the country, but, in the meantime, we suggest that in our own state the high school students be approached.

FREE HOSPITALIZATION IN TB

For many years, the West Virginia Tuberculosis and Health Association has advocated free hospitalization for the tuberculous. This policy was reaffirmed at a recent meeting of the board of trustees. The following statement released by the Board is published in full for the information of all of the members of the West Virginia State Medical Association:

Because of the peculiar nature of tuberculosis, its communicability, usually attendant social problems, the serious economic involvements and costs, the Board of Directors of the West Virginia Tuberculosis and Health Association approves

and recommends a policy of free hospitalization for residents of West Virginia ill with infectious tuberculosis.

There were approximately 4,186 cases of active infectious tuberculosis in the state on record at the State Health Department June 30, 1947, the greater part of whom are financially unable to pay for the necessary treatment.

Including all sanatoria in the state, but excepting beds set aside in mental institutions for the treatment of tuberculous mentally ill patients, there are 1,337 beds for the treatment of tuberculosis. (Pinecrest—665; Hopemont—457; Denmar —125; Hillcrest—52; Ohio County—38.)

Of these beds, 304 are idle (Sept. 6, 1947). There are more than this number of known indigent patients in the state with active disease who are not hospitalized. No funds are available either properly to maintain these beds or pay the dollar per day additional requirement for such patients.

Tuberculosis is primarily a disease of the lower income groups with most victims unable to pay for necessary treatment.

Present standards of determining eligibility are not suitable as they preclude many needy persons from obtaining treatment — especially family breadwinners. As long as good health prevails, most families can meet their financial responsibilities. Sickness soon eliminates this independence.

Medically it is advantageous to provide immediate hospitalization for the tuberculous. The disease is highly infectious. Permitting open infectious cases to remain at large, in families and communities, makes possible continual spread of the disease from the sick to the well. Such procedure is short-sighted. Further, the earlier treatment is introduced, the more certain the cure and the shorter time needed to restore a patient to health; a factor of advantage to both patient and the state.

Economically it is advantageous to provide immediate and adequate hospitalization for the tuberculous. A policy which permits continuation of the spread of the disease from the sick to the well is unsound. This is especially true when the majority of the potential cases will fall into the "needy" classification. Further, to deny treatment to cases in lower economic groups because at the moment family funds seem available for their treatment will discourage many such patients from obtaining hospitalization, thereby assuring a progressive worsening of their disease with an inevitable breakdown, requiring long and costly periods of treatment and rehabilitation; also, possibly, the maintenance of the families on relief during this long period in case it is the family breadwinner who is afflicted.

A further factor in encouraging and making possible early and immediate hospitalization is the loss of both production and earning power of the afflicted individual during long extended periods of illness — a grave loss to the community and state.

Only a limited part of the cost of maintaining individual tuberculous patients in institutions is realized through the one dollar per day collected from patients or their families. A program which precludes immediate hospitalization of either those able or unable to pay, with the advantages known to result from early treatment, actually costs the state money, for it would be cheaper to initiate treatment at once for a shorter period at full cost than to maintain treatment for the same patient later for the more lengthy period needed even though the patient — or family — pays the one dollar per day.

Tuberculosis is a preventable disease. Enough is known about it that, if proper action were instituted, it could be successfully controlled in a reasonably short time. Therefore, with the knowledge and means available for preventing and controlling it, the fact that the disease continues to spread is in part due to the restricted program of the state — both in the case of persons able to pay and those unable to do so. Hence, it is the state's responsibility to care for those afflicted, as well as to protect adequately its healthy citizens.

A needed law permitting the enforced isolation in proper institutions of uncooperative, careless spreaders of infection was enacted by the last legislature. This law cannot be enforced, and is therefore meaningless, because no funds are available to pay the one dollar per day required for treatment unless hospitalization is denied some other patient, more deserving and in definite need of help.

Many other states, realizing the common good derived from a free hospitalization program for their tuberculous patients, and the importance of removing all possible deterrent factors in getting their patients hospitalized early, have successfully established the free-bed policy. It is therefore not new.

The program recommended by the state tuberculosis association would:

Induce earlier treatment, benefitting medically and economically both patients and the state.

Lessen opportunity for the spread of the disease from the sick to the well.

Help reduce additional financial burdens of the state to families of those ill, and additional costs of rehabilitation brought about by more serious disease occasioned by delayed treatment.

Be a certain and important step forward in bringing about earlier control and eventual eradication or the disease.

For these reasons, and others which have become evident through our experience and observation in conducting a campaign to reduce the tragedies and hazards of this disease, the Board of Directors of the West Virginia Tuberculosis and Health Association re-affirms a free-hospitalization plan as its policy in the treatment of tuberculosis and recommends a similar policy, and action to make it possible in West Virginia, to all its members and affiliated county associations and committees.

THE PROBLEM DRINKER

A problem drinker is a person in whose life drink overshadows, threatens or has already destroyed what we consider normal living: his job may be in jeopardy or lost; his place in his family may be dislocated; he may shun or be thrust away from participation in group activities; and, from his point of view, a drink may be of more immediate importance than the salvage of his remaining years. He may even realize, in sobriety or drunkenness or a half-state between the two, that drink is the central problem of his life, and that he chooses to stop drinking. He may eagerly desire to return to complete sobriety, a state which he can recognize as being infinitely preferable to his misery. But he does not know how to stop. He does know, however, that an immediate and effective temporary balm for his unhappy confusion is close at hand —another drink. This person is a problem drinker.

Susceptibility to becoming a victim of alcohol varies among men and women. Great interest is frequently expressed in the question of who is likely to develop into a problem drinker, and much has been written about the many factors—sociological, psysiological, and psychological—which from time to time seem to play incisive roles in producing the swing of the problem drinker's compulsion. Without question, problem drinking often is one manifestation of a poorly adjusted, immature personality; it may be caused by frustration, or it may be a means of escape from difficulties common to the struggle of life.

Some students of alcohol addiction maintain that the problem drinker is first a neurotic, and later, as a result of neurosis, a drunkard. On the basis of my own observation, this is by no means universally true. One need not be a neurotic to get into trouble with drinking. Many men can drink with impunity for years, with no disruption of the normal reactions of life. Sooner or later, however, by means of long and frequent exposure, and by psychological habituation, even the individual with a so-called integrated personality can develop sufficient dependence on alcohol to become a problem drinker.—Charles H. Durfee, Ph. D., in Rhode Island Med. J.

General News

WEST VIRGINIA DOCTORS PARTICIPATE IN S.M.A. CONVENTION AT BALTIMORE

The 41st annual meeting of the Southern Medical Association is scheduled to get under way in the Fifth Regiment Armory, in Baltimore, as this issue of the Journal is on the press (November 24). The convention, abbreviated to three days on account of Thanksgiving, will include three full days of general sessions and meetings of sections. The program is undoubtedly one of the best that has been offered in recent years.

A preliminary survey pointed to a heavy registration from West Virginia, and doctors from this state were to play an important part in the proceedings.

Dr. Ray M. Bobbitt, of Huntington, is chairman of the Council, scheduled to meet in pre-convention session Sunday, November 23. Dr. Andrew E. Amick, of Lewisburg, who will succeed Dr. Bobbitt as a member of the Council, is to attend this meeting. Doctor Bobbitt is to present the Past President's medal to Dr. Elmer L. Henderson, of Louisville, at the general session on Friday evening, November 25.

Dr. John E. Cannaday, of Charleston, is to present a paper before the Section on Surgery. His subject is "Some Experiences in the Use of Cutis Graft in Surgery". Dr. R. J. Wilkinson, of Huntington, is chairman of the section and will preside at the meeting scheduled for the afternoon of November 25. The election of officers of the section will be held following the scientific program.

Six papers are to be presented before the Section on Industrial Medicine and Surgery Tuesday morning. Dr. J. J. Brandabur, of Huntington, is secretary of the section.

At the meeting of the Section on Proctology, Wednesday afternoon, Dr. Chesterfield J. Holley, of Wheeling, is to discuss Dr. Claude G. Mentzer's paper on "Certain Aspects of Pediatric Proctology".

Dr. A. P. Hudgins, of Charleston, is to present a scientific exhibit on the subject of "Perineal Dissection".

1948 ROSTER

The annual roster of members of the West Virginia State Medical Association is printed in this issue of the Journal. All members are requested to check both sections of the roster (county society and alphabetical) and report any errors in names, addresses, or symbols. The roster will be printed in pamphlet form late in December for distribution to the officers of component societies and state medical associations, and Journal advertisers.

ANNUAL CONFERENCE OF SECRETARIES AND EDITORS BEST OF LONG SERIES

The program for the annual conference of state medical association secretaries and editors was undoubtedly one of the best, if not the best, ever arranged for a gathering of this character. The subjects were wisely chosen as appealing to representatives from every part of the nation, and the speakers without exception presented interesting and timely papers.

The conference, which was held at the American Medical Association building in Chicago, November 7-8, was largely attended, and ample time was provided after each paper to permit a thorough discussion of the matters presented by the speaker. This feature of the program met with the enthusiastic response of the secretaries and editors present.

The meeting was called to order on Friday, November 7, by Dr. E. L. Henderson, of Louisville, chairman of the board of trustees of the A. M. A.

Dr. Bruno Gebhard, Director of the Cleveland Health Museum, discussed "Technics in Preparing and Displaying Exhibits for Lay Groups", and Dr. Oscar B. Hunter, of Washington, D. C., spoke on "Effective Scientific Programs". Dr. G. Halsey Hunt, of the USPHS, reported on "A Survey of Group Practice". The morning session ended with a paper by Charles H. Keene, Editor of the Journal of School Health. His subject was "The Private Physician in the School Health Program".

The afternoon session was devoted to a panel discussion on the progress of prepayment medical care plans. The speakers were Drs. James R. McVay, chairman of the Council on Medical Service of the AMA; Mr. Charles H. Crownhart, Secretary of the Wisconsin State Medical Society; Dr. L. Howard Schriver, President of Associated Medical Care Plans, Inc.; and Dr. Alfred W. Adson, member of the Council on Medical Service of the AMA.

In closing his remarks on prepayment plans sponsored by medical societies, Dr. McVay said that "in looking into the future we might well foresee that in the coming political campaign of 1948, there is a great possibility that a major campaign speech will deal with national compulsory health insurance and advocate its adoption.

"If we as physicians whose lives have been devoted to the medical care of our people are interested in their future welfare, we must begin now to controvert such proposals and see that the medical care plan of the future in this country is an American plan, conceived by Americans, developed by Americans, and administered by Americans, that we may continue to be the healthiest nation on earth."

Dr. L. Howard Schriver, in discussing Associated Medical Care Plans, said that "if these plans continue to grow as they have been growing, the medical profession will not be able to take care of the people." He stated further that 195,000 additional hospital beds are needed in America today. The speaker also said that it would take between two and a half and three billion dollars to construct the hospitals needed to provide these beds.

Late in the afternoon, those present divided into separate groups for roundtable discussions of public relations, relations with labor, federal and state legislation, rural medicine, and the conduct of state medical conventions.

The two dinners held at the Palmer House Friday evening were more largely attended than ever before.

At the secretaries' forum following the dinner, the group discussed the subject, "How Can the Activities of the AMA and State Medical Societies be Better Coordinated?" Dr. Julian P. Price, Secretary of the South Carolina Medical Association served as moderator.

Mr. Theodore Wiprud, Secretary of the Medical Society of the District of Columbia, was moderator at the State Medical Journal Clinic. Subjects discussed included format and typography, literary aspects, editorials, and scientific material.

The conference ended Saturday at noon with reports of roundtable discussions held the previous day. Dr. Louis H. Bauer, member of the Board of Trustees, submitted a report on the newly organized World Medical Association. He stated that the secretariat and general headquarters would be located in New York City, next to the World Health Association, and the United Nations headquarters.

"We will probably get very little out of the Association ourselves," said Doctor Bauer, "but we can contribute quite a little to nations throughout the world."

Dr. Stanley B. Weld, of Hartford, Connecticut, was elected chairman of the program committee for the meeting in 1948.

WHEELING CLINIC MANAGER HONORED

At the annual meeting of the National Association of Clinic Managers, held October 6-8 in Kansas City, Missouri, John H. Clark, manager of the Wheeling Clinic, was elected vice-president. He and R. J. Wilkinson, Jr., administrative assistant of the Wilkinson Clinic, Huntington, attended the meeting.

The 1948 meeting will be held in Cleveland, and the 1949 convention is scheduled for New Orleans.

COUNCIL TO MEET DEC. 3

The final meeting of the Council for the year has been called by the chairman, Dr. Andrew E. Amick, of Lewisburg, for Wednesday, December 3. The meeting will be held at the Daniel Boone Hotel in Charleston, beginning at noon. All of the new officers and councillors who will assume their duties the first of the year have been invited to attend the meeting.

PHC MEETS JANUARY 12-14

The winter meeting of the public health council is scheduled for the Daniel Boone Hotel, in Charleston, January 12-14, 1948.

DR. McCUSKEY HEADS FORT HENRY ACADEMY

Dr. William C. D. McCuskey, of Wheeling, has been elected president of the Fort Henry Academy of Medicine, which has been organized under the sponsorship of the Ohio County Medical Society. Other officers were elected as follows: Vice president, Dr. Carl S. Bickel; secretary-treasurer, Dr. D. E. Greeneltch; and, chairman of the program committee, Dr. James D. Bird, Jr.

The new organization will be strictly scientific in character, and will be open to members in good standing of the Ohio County Medical Society and other medical societies in adjacent counties in West Virginia and Ohio. While the Ohio County Medical Society will continue to function for the purpose of administering business affairs as a component society of the West Virginia State Medical Association, it will sponsor no scientific programs. The Academy will meet the fourth Tuesday of each month in the auditorium of the new Wheeling Hospital School of Nursing.

Membership dues are $20 per year, in addition to the regular state and county dues assessed against members of the Ohio County Medical Society. The program committee has arranged programs of unusual interest for the next few months. By-laws were adopted at a meeting recently held in Wheeling.

The committee which had charge of the organization of the Academy for the Ohio County Medical Society was composed of Drs. William C. D. McCuskey, chairman; and Drs. Robert J. Armbrecht, Carl S. Bickel, Russell C. Bond, Arley V. McCoy, Chesterfield J. Holley, John O. Rankin, and W. P. Sammons.

CONGRESS ON INDUSTRIAL HEALTH

The 8th annual Congress on Industrial Health will be held in the Cleveland Auditorium, at Cleveland, January 5-6, 1948, immediately preceding the midwinter session of the American Medical Association. The program is being arranged primarily to appeal to general practitioners.

ACCEPTED INTO FELLOWSHIP IN ICS

Dr. A. P. Hudgins, of Charleston, was accepted into fellowship by the United States Chapter of the International College of Surgeons at the twelfth annual convocation held October 3, at the Medinah Temple, in Chicago. At the same time, Dr. Joseph A. Guthrie, of Huntington, and Dr. Joseph H. Selman, of Charleston, were accepted into associate fellowship.

S. M. A. AUXILIARY AT BALTIMORE

The 23rd meeting of the Woman's Auxiliary to the Southern Medical Association is to be held at the Southern Hotel in Baltimore, November 24-26, conjointly with the annual meeting of the Association. Mrs. U. G. McClure, of Charleston, immediate past president of the Woman's Auxiliary to the West Virginia State Medical Association, is chairman of the committee on Research and Romance of Medicine. Mrs. Ralph S. McLaughlin, also of Charleston, is a member of the Council.

CANCER INFORMATION CENTER REPORTS ON YEAR'S ACTIVITIES IN CHARLESTON

Cancer information centers are in operation in Bluefield, Charleston and Wheeling, but the center at Charleston is the only one of the three that has been in operation for a full year.

The services of a cancer field worker for Kanawha County were made available August 15, 1945. The service has continued since that date, and the Cancer Information Center was officially opened in November, 1946.

According to the annual report prepared by the cancer field worker, Mrs. Frances G. Meyer, for the period from September 1, 1946, to August 31, 1947, the information center was established for the purpose of answering questions from persons seeking advice about their respective cancer problems. "No professional advice is given," it is stated, "and all persons are so notified. Persons desiring an examination are referred to their family physician. If it is clear that the patient has no family physician, he is asked to choose one from the list supplied by the local medical society or to report to one of the three approved tumor clinics in this area.

"There are many persons who have financial problems in meeting the expense of an initial examination, and the expense of treatment when the condition has been diagnosed as malignant. Through the Division of Cancer Control of the State Health Department, financial assistance for treatment can be extended to needy cancer patients. Application for such care may be made at the Information Center.

"Information concerning the activities of the American Cancer Society and the Division of Cancer Control is given and educational material is available for all. Information concerning official and volunteer agencies which provide visiting nurses service and other health and welfare assistance is available. Referrals are made directly from the center. Through our participation in the Kanawha County Welfare Council, constant contact with these agencies is maintained.

"The staff of the information center is composed of a full time cancer field worker, and a full time secretary, who is on duty from 9:00 A. M. to 5:00 P. M., daily."

The activity report shows that Mrs. Meyer has attended 51 weekly clinics at the Mountain State Memorial Cancer clinic, and 44 at the Charleston General Hospital tumor clinic. The following is a breakdown of the year's work at the two clinics:

> Mountain State: Patients attending, 618; returning for routine observation, 417. Disposition of new cases: Diagnosed and treated malignancies, 75; refused recommended treatment, 4; treated for benign lesions and other conditions, 34; referred to family physician, 48; diagnosis deferred, requested to remain under observation, 34; and, referred from other hospitals for clinical consultation, 7.
>
> Charleston General: Patients attending, 241; returning for routine follow-up examination, 110; diagnosed and treated malignancies, 58; refused recommended treatment, 2; treated for benign lesions and other conditions, 19; referred to family physician, 17; diagnosis deferred, requested to remain under observation, 25; clinical

consultation, malignancy previously established, 3; advanced cases and inoperabe, 71 .

The report shows that 127 applications for financial assistance have been received; that 97 home and 229 hospital visits have been made; and, that 28 referrals from social agencies have been handled.

The staff at the center has assisted Dr. L. B. Thrush in making a study of 200 cases pathologically diagnosed pigmented nevi. The patients had been treated at the Mountain State Memorial and Charleston General clinics.

DR. T. G. KLUMPP KANAWHA SPEAKER

Dr. Theodore G. Klumpp, president of Winthrop-Stearns, Inc., will be the guest speaker at the monthly meeting of Kanawha Medical Society, at the Daniel Boone Hotel, in Charleston, December 9. Doctor Klumpp was formerly chief of the drug division of the U. S. Food and Drug Administration, and secretary of the A. M. A. Council on Pharmacy and Chemistry.

DOCTORS LICENSED BY PHC

As the result of the examination held by the public health council at Charleston, October 2-4, 1947, 21 doctors were licensed to practice medicine in West Virginia, six by direct examination, and 15 by reciprocity with other states.

The following is the list of doctors licensed by direct examination:

Louis Reason Chaboudy, Huntington; Ormond Lee Haynes, Fairmont; George William Hogshead, Huntington; Thomas Crowley McFarland, Huntington; Harvey Johnston Thompson, Jr., Princeton; and, Luther Dabney Robinson, Lakin.

The following doctors were licensed by reciprocity:

Patrick Michael Berzito, Charleston; Milton Alexander Butts, Beckley; John Edward Caton, Delbarton; Donald Paul Chance, Coalwood; Mary Dorcas Clark, Morgantown; George Taylor Flesher, Huntington; Richard Ovid Gale, Welch; Edward Vale Henson, Charleston; Stanley John Kuman, Charleston; Donald Kenneth McIntyre, Berkeley Springs; Clemmer Marcus Peck, Cannelton; Robert DeWitt Peck, Cannelton; Harold William Snodgrass, Spencer; William Joseph Steger, Hopemont; and Eli Joel Weller, Weirton.

During 1947, 99 doctors have been licensed to practice in this state. The next examination by the public health council will be held in Charleston, January 12-14, 1948.

COMMITTEE ON SCIENTIFIC EXHIBIT

Dr. Thomas Bess, president-elect of the West Virginia State Medical Association, has named the committee on scientific exhibit for the annual convention at Huntington, May 10-12, 1948.

Dr. Hu Myers, of Philippi, chairman of the committee for the past several years, has been reappointed to that office. The other two members are Dr. Chauncey B. Wright, of Huntington, who has also served as a member for several years, and Dr. Melford L. Hobbs, of Morgantown, head of the department of pathology at West Virginia University, who succeeds the late Dr. C. C. Fenton as a member of the committee.

ANNUAL DUES

Annual dues of $15.00 are payable January 1, 1948. Members of the West Virginia State Medical Association are requested to submit dues through their local secretary or treasurer. No dues are assessed against honorary members or medical veterans released from the service during 1947. Dues are payable by medical veterans who were released prior to January 1, 1947.

GENERAL PRACTITIONERS AT CLEVELAND

The advance program tentatively agreed upon for the scientific sessions for general practitioners, which will be held in Cleveland, January 7-8, following the two-day session of the House of Delegates of the A. M. A., will include the following speakers: Frank H. Lahey, M. D., Boston, "Peptic Ulcer"; Carl V. Moore, M. D., St. Louis, "Recent Advances in Hematology"; and Edward L. Bortz, M. D., Philadelphia, President of the A. M. A., "The Chronic Invalid".

According to Dr. George F. Lull, secretary-manager of the A. M. A., the program will also include several panel discussions. One will deal with the care of post-hospitalized patients with cancer. Dr. Charles C. Lund, of Boston, will be the moderator. The treatment of ambulatory and hospitalized diabetic patients will be discussed with Dr. Elliott P. Joslin, of Boston, as moderator. Other panels will be held on the treatment of pathologic disturbances of adolescence, with Dr. Joseph A. Johnston, of Detroit, as moderator, and uterine hemorrhage, with Dr. Karl H. Martzloff, of Portland, Oregon, as the moderator.

A symposium on multiple injuries in automobile accidents is also planned, with Dr. Luke B. Jackson, of San Antonio, presiding. Several other papers will deal with subjects of interest to the general practitioner.

RELOCATIONS

Dr. Stanley J. Klyza, of Clarksburg, has accepted a residency in obstetrics and gynecology at the University of Chicago Clinics, and will resume practice in West Virginia about April 1, 1948.

* * * *

Dr. Claude Frazier, of Winona, has accepted appointment as a member of the medical staff of the Veterans Administration at Huntington.

* * * *

Dr. C. F. Jackson, formerly of Charleston, who has been practicing in Portland, Maine, for several months, has returned to West Virginia, and will engage in industrial practice at War.

* * * *

Dr. William A. Klausman, of Anjean, has moved to Rupert, where he will continue in industrial practice.

* * * *

Dr. W. F. McFarland, of Keyser, has moved to Cresaptown, Maryland, where he will continue in general practice.

REGIONAL CONFERENCE AT CLEVELAND

The annual midwinter regional conference sponsored by the Council on Medical Service of the American Medical Association will be held at the Hotel Cleveland, in Cleveland, Sunday, January 4, 1948. The following states are included in the conference: Indiana, Ohio, Illinois, Kentucky, Michigan, and West Virginia. Dr. E. J. McCormick, of the Council on Medical Service, will preside as chairman.

The following is the tentative program that has been arranged for the meeting:

"Services A. M. A. Can Render Medical Societies"—George F. Lull, M. D., Secretary-Manager, A. M. A.

"The Council on Medical Service and the State and County Medical Societies"—A. W. Adson, M. D., Member, Council on Medical Service, A. M. A., Rochester, Minnesota.

"Suggested Improvements in A. M. A. Services to Medical Societies."

Luncheon Speaker—R. R. Sayers, M. D., Chairman, United Mine Workers Medical Advisory Board, Welfare and Retirement Fund, Washington, D. C.

"What Can We Expect in Compulsory Sickness Insurance Legislation?"—Joseph S. Lawrence, M. D., Director, Washington Office of the Council on Medical Service, Washington, D. C.

"Suggestions For Improving Rural Medical Services."

"An Inventory of Modern Medical Public Relations"—Hugh W. Brenneman, Public Relations Counsel, Michigan State Medical Society, Lansing, Michigan, and George H. Saville, Director of Public Relations, Ohio State Medical Association, Columbus, Ohio.

"Detailing Work to Medical Associates"—Ralph H. Pino, M. D., Detroit, Michigan.

Officers of state medical Associations, county societies, and charmen of key committees are being invited to attend the conference.

PG COURSES IN LARYNGOSCOPY

Postgraduate courses in laryngoscopy and intubation, sponsored by the Society for the Prevention of Asphyxial Death, are scheduled for December 5-6, 1947, January 2-3, March 5-6, and April 2-3, 1948, in New York City. Classes are limited to 12 students. The courses stress the stages of asphyxia, the pathologic physiology of each stage and the indications for treatment. For information address: Pneumatology, Manhattan General Hospital, 307 2nd Avenue, New York City.

P. A. CONGRESS OF OPHTHALMOLOGY

The third Pan American Congress of Ophthalmology will be held in Havana, Cuba, January 4-10, 1948. It is thought that about 1,000 ophthalmologists will attend the sessions, which will be held at the University of Havana School of Medicine.

Dr. Tomas R. Yanes is president of the association, Dr. Miguel A. Branly, secretary general, and Dr. Gilberto Cepero, director general.

PSYCHIATRIC RESIDENCIES OPEN

The Civil Service Commission has announced an examination for filling Resident-in-training positions in Psychiatry at St. Elizabeths Hospital, Washington, D. C. This Psychiatric Residency consists of eleven months in psychiatry and one month in neurology and psychosomatic problems. The salaries are $2,400 and $2,700 a year.

To qualify, applicants must have completed their fourth year of study in an approved medical school and must have the degree of either B. M. or M. D. In addition, they must have successfully completed an accredited full rotating internship of at least 9 months, or must now be serving such internship. Persons who attain eligibility while serving their internship may have their names submitted for appointment, but they cannot enter on duty until their internship is completed. No written test is required.

Full information and application forms may be secured at most first- and second-class post offices, from civil service regional offices, or direct from the U. S. Civil Service Commission, Washington 25, D. C. Applications must be received in the Commission's Washington office not later than December 16, 1947.

INTERNATIONAL COLLEGE OF SURGEONS

The 13th annual assembly of the United States Chapter of the International College of Surgeons will be held November 15-19, 1948, at the Kiel Auditorium, in St. Louis. The 1949 assembly is scheduled for Atlantic City the week of November 1-5.

HEADS COMMITTEE ON LOCAL ARRANGEMENTS

Dr. E. J. Humphrey, of Huntington, has been named chairman of the local committee on arrangements for the 81st annual meeting of the West Virginia Medical Association in that city, May 10-12, 1948.

SPARE PARTS

Were it not that prophets have always been unduly liable to get into hot water, one would be tempted to hazard some guesses as to the possibility of bodily repairs and replacements in the future. Modern surgery has developed to a point where it can correct some malformations, notably circulatory ones, until recently beyond its reach, and invade organs, the lungs, heart and brain for example, that were formerly regarded as sacrosanct.

To a limited extent we can now supply missing parts, but whether we shall ever reach a stage in which diseased vessels or damaged organs can be commonly replaced in whole or in part is a moot question. An affirmative answer would mean that the personal columns of our newspapers would be more intriguing than ever. It would be diverting to read that Jane Doe had just returned from the Juneau Clinic with a new aorta or that Jane Roe had acquired a new archipelago of Islands of Langerhans at Mount Ararat Hospital. To be realistic, the likelihood of such performances seems rather remote but — quien sabe? — Connecticut St. Med. J.

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Huffman, J. C. — Buckhannon
Huffman, W. W. — Gassaway
Hunter, E. H. — Webster Springs
Hunter, Jack W. — Webster Springs
Hutchinson, B. M. — Sutton
*King, W. P. — Weston
Knapp, J. L. — Weston
Lawson, A. F. — Weston
Leef, J. L. — Richwood
McClung, James E. — Richwood
McClung, James — Richwood
McClung, W. D. — Richwood
Morrison, M. T. — Sutton
Page, B. L. — Buckhannon
*Rohr, C. B. — Alum Bridge
Rusmisell, J. A. — Buckhannon
Rusmisell, J. A., Jr. — Buckhannon
Smith, W. T. — Glenville
Snaith, Theresa O. — Weston
*Snyder, George — Weston
Stalnaker, Guy — Glenville
Strickland, L. N. — Summersville
Trinkle, E. A. — Weston
*Van Tromp, H. O. — French Creek
*Walker, Everett — Weston

DODDRIDGE

Poole, A. — West Union
White, R. S. — West Union

EASTERN PANHANDLE

†Appleby, George S. — Martinsburg
Armentrout, A. W. — Martinsburg
Bitner, E. H. — Martinsburg
Clapham, R. E. — Martinsburg
Dunne, Thomas B. — Charles Town
Eagle, A. B. — Martinsburg
Fox, M. R. — Charles Town
Fry, S. Oscar — Charles Town
Glenn, Marshall — Charles Town
Glover, V. L. — Martinsburg
Guthrie, J. K. — Martinsburg
Haltom, W. L. — Martinsburg
Hendrix, N. B. — Martinsburg
Kilmer, John H. — Martinsburg
Link, Vaughn — Shepherdstown
Martin, G. O. — Martinsburg
McFetridge, S. Elizabeth — Shepherdstown
Morison, G. P. — Charles Town
Oates, Max — Martinsburg
Oates, T. K. — Martinsburg
Porterfield, M. H. — Martinsburg
Power, C. G. — Martinsburg
Shaw, D. J. — Martinsburg
Talbott, R. B. — Martinsburg
Tonkin, H. G. — Martinsburg
Van Metre, J. L. — Charles Town
Wallace, W. A. — Martinsburg
Wanger, Halvard — Shepherdstown
Warden, W. P. — Charles Town
Zepp, Andrew — Martinsburg

FAYETTE

Bays, A. E. — Montgomery
Bilger, F. W. — McComas
Bittinger, W. P. — Summerlee
*Brugh, B. F. — Clearwater (Fla.)
Bundy, W. E. — Oak Hill
Cardy, N. L. — Los Angeles (Calif.)
Carter, Eugene S., Jr. — Montgomery
Claiborne, W. L. — Montgomery
Crank, G. O. — Los Angeles (Calif.)
Davidson, S. P. — Boomer
Davis, W. B. — Rainelle
Donelson, Martin, Jr. — Phila. (Pa.)
Dorsey, C. S. — Kingston
Feldman, John L. — New York (N.Y.)
Frame, Eugene M. — Winona
Frazier, Claude — Huntington

Frazier, Ralph ..... Fayetteville
Gordon, P. L. ..... Belle
Harless, L. R. ..... Gauley Bridge
Hodges, G. G. ..... Mt. Hope
Hresan, M. G. ..... Fayetteville
Hughes, C. B., Jr. ..... Montgomery
Hyman, B. M. ..... Montgomery
Jackson, H. M. ..... Brooklyn
Jarrett, J. N. ..... Oak Hill
Jones, E. E., Jr. ..... Mt. Hope
Laird, T. Kerr ..... Montgomery
Laird, William R. ..... Montgomery
Martin, H. C. ..... East Rainelle
Merriam, C. G. ..... Page
Moore, M. A. ..... Longacre
Moser, L. A. ..... Charleston
Nolan, L. E. ..... Columbia (S. C.)
Nutter, E. V. ..... Gauley Bridge
Peck, R. S. ..... Cannelton
Peskoe, L. Y. ..... Louisville (Ky.)
Puckett, B. F. ..... Oak Hill
Scott, W. W. ..... Oak Hill
*Shaffer, J. S. ..... Montgomery
Sims, Thomas C. ..... Fayetteville
Skaggs, H. C. ..... Montgomery
Smith, G. A. ..... Montgomery
Smith, Hal W. ..... Montgomery
Stallard, C. W. ..... Montgomery
Thompson, E. B. ..... Montgomery
Thompson, J. B. ..... Oak Hill
Troutman, H. F. ..... Logan
Updike, R. A. ..... Montgomery
Watkins, C. E. ..... Oak Hill
Wight, Anne ..... Montgomery
Wiseman, Henry A., III ..... Glen Ferris

GREENBRIER VALLEY

Amick, Andrew E. ..... Lewisburg
Baker, James P. ..... White Sulphur Springs
Compton, J W. ..... Ronceverte
Dilley, Chas. K. ..... Marlinton
Ferrell, A. D. ..... Ronceverte
Gohmann, Joseph T. ..... Rainelle
Gray, David B. ..... Quinwood
Gunning, H. D. ..... Ronceverte
Hawkins, R. F. ..... Lewisburg
*Hinsdale, Guy ..... Charlottesville (Va.)
Jackson, C. C. ..... East Rainelle
Klausman, Wm. A. ..... Rupert
Lanham, A. G. ..... Ronceverte
Leech, J. G. ..... Quinwood
Lemon, C. W. ..... Lewisburg
Mahood, C. F. ..... Alderson
Mamick, Stephen ..... White Sulphur Springs
Matney, T. G. ..... Peterstown
McClintic, C. F. ..... Williamsburg
McClure, T. R. ..... Marlinton
McFerrin, S. A. ..... Renick
Millman, T. H. ..... Anjean
Myles, W. E. ..... White Sulphur Springs
Perkins, Haven M. ..... Quinwood
Preston, D. G. ..... Lewisburg
Prillaman, P. E. ..... Ronceverte
Strader, H. B. ..... White Sulphur Springs
Wall, C. I. ..... Rainelle
Williams, J. O. ..... Alderson
Williams, L. ..... Meadow Bridge

HANCOCK

Beaumont, G. L. ..... New Cumberland
Bogarad, M. ..... Weirton
Brand, J. M. ..... Chester
Bruce, T. H. ..... New Cumberland
Fisher, J. E. ..... New Cumberland
Flood, Richard E. ..... Hollidays Cove
Focer, R. L. ..... Weirton
Hall, J. E. ..... Newell
Justice, Edward L. ..... Hollidays Cove
McNinch, E. R. ..... Weirton
Polen, F. E. ..... Hollidays Cove
Pugh, David S. ..... Chester
Rigas, George S. ..... Weirton
Schwartz, L. O. ..... Weirton
Slate, T. A. ..... Hollidays Cove
Smith. G. C. ..... Hollidays Cove
Thompson, J. L. ..... Weirton
Weller, Eli J. ..... Weirton
Wolpert, Milton ..... Chester
Yurko, Anthony ..... Holidays Cove
Yurko, Leonard E. ..... Weirton

HARRISON

Allen, E. Ross ..... Clarksburg
Allman, W. H. ..... Clarksburg
Brake, B. S. ..... Clarksburg
Brannon, E. H. ..... Bridgeport
Brennan, J. T. ..... Clarksburg
Chandler, F. C. ..... Bridgeport
Coffindaffer, R. S. ..... Shinnston
Cruikshank, D. P. ..... Lumberport
*Davis, Edward ..... Salem
Davis, W. M. ..... Bridgeport
*Esker, H. H. ..... Clarksburg
Evans, G. F. ..... Clarksburg
Ferrell, Marcus E. ..... Clarksburg
Fisher, C. F. ..... Clarksburg
Flowers, Earl N. ..... Clarksburg
*Folk, John ..... Bridgeport
Genin, F. G. ..... Clarksburg
Gilman, Joseph ..... Clarksburg
Gocke, Jack T. ..... Clarksburg
Gocke, T. V. ..... Clarksburg
Gocke, W. T. ..... Clarksburg
Golz, H. H. ..... (Arabia)
Grant, Sylvia S. ..... Park
Greer, C. C. ..... Clarksburg
Hall, S. S. ..... Clarksburg
Hanifan, R. K. ..... Clarksburg
Harris, T. G. ..... West Milford
Harrison, Charles S. ..... Clarksburg
Haynes, H. H. ..... Clarksburg
Hess, D. S. ..... Shinnston
*Hill, E. A. ..... Greenwood
Humphries, R. T. ..... Clarksburg
Jabaut, S. W. ..... Shinnston
Jackson, Kenna ..... Clarksburg
Jarvis, C. C. ..... Clarksburg
Kelly, A. O. ..... Wallace
*Kemper, A. J. ..... Lost Creek
Kerr, John C. ..... Clarksburg
Klyza, S. J. ..... Clarksburg
Ladwig, O. W. ..... Wilsonburg
Langfitt, F. V. ..... Clarksburg
Lembright, J. F. ..... Clarksburg
Linger, R. B. ..... Clarksburg
Lough, D. H. ..... Clarksburg
McClung, James R. ..... Clarksburg
McCuskey, John F. ..... Clarksburg
McGuire, J. P. ..... Clarksburg
Mills, L. H. ..... Clarksburg
Neal, L. E. ..... Clarksburg
Nutter, R. J. ..... Clarksburg
*Ogden, C. R. ..... Clarksburg
Owens, W. T. ..... Clarksburg
Page, J. E. ..... Clarksburg
Pearcy, C. L. ..... Salem
*Pendleton, E. ..... Clarksburg
Ping, E. C. ..... Clarksburg
Pletcher, R. O. ..... Lost Creek
Post, A. T. ..... Clarksburg
Post, C. O. ..... Clarksburg
*Post, S. H. ..... Volga
Ralston, James ..... Clarksburg
Randolph, E. B. ..... Lost Creek
Repass, James C. ..... Lumberport
Riheldaffer, Wm. H. ..... Chattanooga (Tenn.)
*Riley, R. M. ..... Nutter Fort
Ritter, E. E. ..... Salem
Rose, George W. ..... Clarksburg
Shore, E. L. ..... Salem
Slater, C. N. ..... Clarksburg
Spelsburg, W. W. ..... Clarksburg
Stephenson, J. E. ..... Clarksburg
Strother, W. L. ..... Salem
Stroud, C. G. ..... Shinnston
Thomas, H. V. ..... Clarksburg
Tucker, E. D. ..... Nutter Fort
Weaver, Andrew J. ..... Clarksburg
Whisler, H. A. ..... Clarksburg
Wilkinson, B. W. ..... Clarksburg
Williams, J. F., Jr. ..... Clarksburg
Willis, C. A. ..... Clarksburg
Wilson, J. E. ..... Clarksburg
Wilson, J. E., Jr. ..... Clarksburg
Wornal, L. S. ..... Spelter
Wright, E. B. ..... Clarksburg
Wright, W. B. ..... Clarksburg
Zinn, L. D. ..... Clarksburg

KANAWHA

Albrecht, M. — Charleston
Aliff, J. Paul — Charleston
Aliff, Robert C. — Richmond (Va.)
*Amick, A. L. — Charleston
Amick, F. E. — Charleston
Anderson, R. L. — Charleston
Angell, H. W. — Charleston
Armentrout, L. H. — Charleston
Ashman, H. — New York (N.Y.)
Bachwitt, David — South Charleston
Baer, R. E. — South Charleston
Bailey, H. A. — Charleston
Bailey, R. W. — Hurricane
Baldock, H. E. — Charleston
Banks, J. Bankhead — Charleston
Barber, D. N. — Charleston
Barber, T. M. — Charleston
Basman, Jack — Charleston
Beddow, H. M. — Charleston
Belknap, Helen — St. Albans
Bivens, S. L. — Charleston
Black, W. P. — Charleston
Blagg, B. V. — South Charleston
Blake, T. H. — St. Albans
Bobbitt, O. H. — Charleston
Bock, Robt. C. — Charleston
Boggs, Hunter — Charleston
Boiarsky, Julius — Charleston
Bonar, M. L. — Charleston
Bowyer, A. B. — Charleston
Bradford, Bert, Jr. — Charleston
Brady, A. Spates, Jr. — Charleston
Breisacher, Carl F. — Charleston
Brick, John P. — Charleston
Brown, H. M. — Charleston
*Brown, R. J. — Sutton
Buff, I. E. — Charleston
Buford, R. K. — Charleston
Bull, S. W. — Spencer
Burdette, Rex A. — Charleston
Cannaday, J. E. — Charleston
Capito, G. B. — Charleston
Carney, Harry A. — Charleston
Champe, Preston — Charleston
Chandler, A. C. — Charleston
Churchman, V. T. — Charleston
Clair, Eli C. — Belle
Clark, F. A. — Charleston
Condry, John C. — Charleston
Cooke, W. L. — Charleston
*Copeland, C. E. — Charleston
Cox, L. E. — Charleston
*Davis, E. A. — Charleston
Dawson, R. O. — Charleston
Dent, D. A. — Charleston
Dickerson, L. A. — Charleston
Dobbs, F. H. — Charleston
Duling, M. S. — Charleston
Dunlap, J. L. — Nitro
Dunn, Edward T., Jr. — South Charleston
Dunn, R. H. — South Charleston
Eckman, Leonard — South Charleston
Elkin, W. Paul — Charleston
Engelfried, C. H. — Charleston
Erwin, F. L. — Burnwell
Escue, H. M. — Charleston
Eves, F. P. — Charleston
Fisher, H. H. — Dunbar
Fleshman, C. M. — Clendenin
Frame, R. I. — Sharples
Frank, Ludwig — Charleston
Frazier, J. W. — Charleston
Gallagher, Mary V. — Charleston
Gerhardt, P. R. — Charleston
Given, A. J. — Rensford
Glass, H. R. — Charleston
Glass, W. J. — Sissonville
Glass, W. J., Jr. — Sissonville
Godbey, J. R. — Charleston
Gordon, A. T. — Spencer
Gott, E. Fred — Charleston
Grace, J. E. — Cabin Creek
Gray, James H. — Ward
Grisinger, G. F. — Charleston
†Groves, Owen A. — Charleston
Grubb, Geo. L. — Charleston
Hager, J. L. — Charleston
Haley, John B. — Charleston
Haley, P. A., II — Charleston
Hall, Carl B. — Charleston
Halloran, R. O. — Charleston
Hamner, C. E. — Spencer
Hamrick, R. E. — Charleston
Hamrick, R. S. — St. Albans
Hardesty, W. L. — Charleston
Harper, C. A. — Clendenin
Harper, O. M. — Clendenin
Hash, J. W. — Charleston
Hayes, E. R. — Chelyan
Heffner, G. P. — Charleston
Henson, E. B. — Charleston
Hills, H. M., Jr. — Charleston
Hoffman, W. E. — Charleston
Hoke, L. I. — Nitro
Holcombe, V. E. — Charleston
Houck, C. L. — Carbon
Houck, M. R. — Carbon
Howell, H. H. — Madison
Hudgins, A. P. — Charleston
Hunter, J. Ross — Charleston
Hutchinson, T. H. — Malden
Ireland, R. A. — Charleston
Irwin, G. G. — Charleston
Jarrell, C. A. — Charleston
Jarrett, John T. — Charleston
Jarrett, L. A. — Dunbar
Jarrett, Marion F. — Charleston
Johnson, P. C. — Belle
Jones, Ralph J. — Charleston
Jordan, E. V. — Charleston
Kammer, A. G. — South Charleston
Kessel, C. R. — Ripley
Kessel, Ray — Charleston
Kessel, Russell — Charleston
Ketchum, R. D. — Charleston
Koenigsberg, Max — Charleston
Kuhn, Beatrice H. — Charleston
Kuhn, Harold H. — Charleston
Lampton, Arthur K. — Charleston
Lance, V. L. — Charleston
Law, H. D. — Charleston
Lewis, C. E. — Charleston
Lilly, Goff P. — Charleston
Lilly, J. P. — Charleston
Lilly, Milton, Jr. — Charleston
Litsinger, E. A. — Charleston
Litton, A. C. — Charleston
Louft, R. R. — Charleston
Lovejoy, U. C. — Charleston
Lutz, John E. — Charleston
Mace, V. E. — Charleston
Mantz, Theodore P. — Charleston
Marquis, Henrietta — Charleston
Marquis, J. N. — Charleston
Matthews, L. B. — Charleston
McClanahan, Rose — Charleston
McClue, A. E. — Dunbar
McClure, U. G. — Charleston
McLaughlin, Ralph S. — Charleston
*McMillan, W. A. — Charleston
McMillan, W. O. — Charleston
McNamara, R. J. — Charleston
McPherson, H. D. — Eskdale
Mendeloff, M. I. — Charleston
Mican, H. M. — Charleston
Milhoan, A. W. — Nitro
Miyakawa, George — Charleston
Morison, O. N. — Charleston
Mynes, L. H. — Charleston
Nelson, George O. — Nitro
Newhouse, N. H. — Charleston
Niedermyer, J. W. — Charleston
O'Dell, Richard N. — Syracuse (N.Y.)
Palmer, G. F. — (Penna.)
Pearcy, Thompson — Charleston
Peck, Earl M. — Charleston
Pence, R. E. — South Charleston
Peters, J. T. — South Charleston
Peterson, V. L. — Charleston
*Phillips, S. H. — St. Albans
Point, W. W. — Charleston
Polsue, W. C. — Charleston
Powell, Charles W. — Charleston
Preiser, Phillip — Charleston
Price, A. M. — Madison
Price, R. B. — Charleston
Pushkin, Willard — Charleston
Putschar, W. J. G. — Charleston
Quick, James C. — Clendenin
Reed, T. G. — Charleston
Reel, F. C. — Charleston
Reeves, J. N. — Charleston
Revercomb, P. H. — Charleston
Rice, Wm. R. — Dunbar

Ritter, H. H. Charleston
Robertson, G. C. Charleston
Robertson, H. L. Charleston
Robertson, W. S. Charleston
Robins, J. E., Jr. Charleston
Robinson, J. H. Charleston
Rohr, J. U. Charleston
Rossman, Wm. B. Charleston
Rucker, J. E. Charleston
*Schoolfield, G. C. Charleston
Scott, C. N. Martinsburg
Seletz, A. A. Charleston
Selman, J. H. Charleston
Seltzer, Jos. P. Charleston
Sexton, Richard J. Charleston
Shamblen, Earle Charleston
Shawkey, A. A. Charleston
Shepherd, E. M. Charleston
Shepherd, W. S. Charleston
Shirkey, W. F. Charleston
Skaff, Victor S. Charleston
Skaggs, J. S. Knoxville (Tenn.)
Skaggs, J. W. Nitro
Slaughter, James F. Charleston
Smith, A. A. Clay
Smith, B. A. Spencer
Smith, C. B. Charleston
Souleyret, S. B. Cabin Creek
Soulsby, P. C. St. Albans
Spencer, Tracy N., Jr. South Charleston
Squire, E. W. Charleston
Staats, Charles Charleston
Stanley, L. P. Charleston
Starcher, R. C. Ripley
Stewart, W. C. Charleston
Stoeckel, Catherine R. Charleston
Stork, A. R. Logan
Summers, R. R. Charleston
Swart, H. A. Charleston
Thompson, H. G. Charleston
Thornhill, W. A., Jr. Charleston
Tuckwiller, P. A. Charleston
Vaughan, E. O. St. Albans
Vial, Horace R. W. So. Charleston
Ward, Harold W. Charleston
Watts, C. N. Charleston
Webb, R. L. Charleston
Whiteside, C. T. Kayford
Wilkerson, W. V. Prenter
Williamson, Robt. G. Marmet
Wilson, A. A. Charleston
Wilson, W. B. Charleston
*Wilson, W. H. St. Albans
Woodall, R. E. Charleston
Work, W. F. Charleston

LOGAN

Altizer, A. E. Accoville
*Aultz, L. L. Ward
Brammer, F. E. Dehue
Brewer, W. E. Logan
Combes, L. G. Holden
Davis, C. A. Logan
Deason, V. A. Logan
Farley, H. H. Logan
French, A. M. Logan
Greene, Joseph L. Logan
Hamilton, W. P. Chapmanville
Jamison, Frank R. Logan
Kizinski, Alexander B. Logan
Kruger, I. M. Logan
Lawson, L. W. Logan
*Lawson, S. B. Logan
Lyons, J. W. Holden
*McClellan, W. T. Ethel
Mullins, George R. Logan
Newlin, Willard S. Lorado
Parker, W. H. Braeholm
Patterson, J. L. Logan
Poling, Owen Eskdale
Roberts, R. W. Man
*Round, F. L. Holden
Rowan, W. S. Logan
Scott, Robert K. Lorado
Smith, B. D. Amherstdale
*Smith, T. C. Slagle
Starcher, E. H. Logan
*Steele, L. E. Logan
Trippett, L. H. Earling
Van Hoose, Harold Mallory
Vaughan, R. R. McConnell

MARION

Baron, L. E. Mannington
Barr, J. M. Worthington
Bonnar, James M. Fairmont
Bressler, David Monongah
Carter, C. J. Fairmont
Clinton, J. B. Fairmont
Collins, J. C. Fairmont
Criss, H. L. Fairmont
Evans, Geo. T. Idamay
Falconer, H. S. Fairmont
Fleming, H. C. Fairmont
Frye, R. R. Mannington
Grainger, G. A. Farmington
Hamilton, D. D. Mannington
Helmick, John P. Fairmont
Hickson, Edward W. Fairmont
*Holland, C. L. Fairmont
Holland, E. A. Fairmont
Jenkins, J. J. Farmington
Jenkins, J. J., Jr. Farmington
*Johnson, H. R. Fairmont
Johnson, Philip Fairmont
Jones, R. Harold Fairmont
Keister, H. S. Fairmont
*Kinney, C. L. Fairmont
Kinney, E. R. Fairmont
Lambert, L. R. Fairmont
Lawson, C. S. Fairmont
Lawson, C. S., Jr. Fairmont
Lawson, William Fairmont
*Leahy, W. J. Mannington
Mallamo, J. T. Fairmont
Maxwell, Jos. S. Fairmont
Moore, P. G. Mannington
Morgan, G. V. Fairmont
Norris, L. D. Fairmont
Nunnally, Wm. Ord Fairmont
Offner, J. E. Fairmont
Orr, W. W. Rachel
*Parks, C. L. Fairmont
Parks, Seigle W. Fairmont
Ramage, C. M. Fairmont
Rogers, F. B. Fairmont
Romino, J. D. Fairmont
Sowers, F. F. Fairmont
Spencer, L. O. Fairmont
Swisher, K. Y. Fairview
*Trach, J. M. Fairmont
Trach, J. P. Fairmont
Traugh, G. H. Fairmont
Tuckwiller, J. R. Fairmont
Vacheresse, Edw., Jr. Fairmont
Van Horn, K. L. Fairmont
Welton, W. A. Fairmont
Wise, E. D. Fairmont
Yost, Herschel R. Fairmont
Yost, Joe Fairmont
Yost, Paul Fairmont

MARSHALL

Arnold, J. E. Cameron
Ashworth, Harold B. Moundsville
*Ashworth, R. A. Moundsville
Benson, Don S. Moundsville
*Bone, B. F. Moundsville
Bradford, Wm. P. Moundsville
Clubb, E. M., Jr. McMechen
*Covert, O. F. Moundsville
Dotson, Samuel C., Jr. Cameron
Ealy, D. L. Moundsville
Grimm, R. B. Cameron
Hartwig, W. B. Wheeling
Hill, W. G. C. Live Oak (Fla.)
Kaufman, Edward L. McMechen
McIlvain, W. E. Moundsville
Peck, J. C. Moundsville
*Striebich, J. A. Moundsville
Yoho, S. F. Moundsville

MASON

Brown, C. Leonard Pt. Pleasant
Bryant, R. F. New Haven
Glassman, Dan Pt. Pleasant
Long, Frank C. Pt. Pleasant
McElfresh, Edward V. Pt. Pleasant

MERCER

Bertling, M. H. Rock Creek (O.)
Bird, Ben W., Jr. Princeton
Blaydes, J. E. Bluefield
Butte, C. I. Matoaka
Calvert, J. W. Lynbrook (N.Y.)
Clements, B. S. Matoaka
Connell, H. R. Bluefield
Davis, H. C. Bluefield
Davidson, S. G. Bluefield

Fowlkes, R. H. — Bluefield
Fox, J. Francke — Bluefield
Fox, P. R. — Bluefield
Fugate, R. C. — Bluefield
Gage, E. L. — Bluefield
Gatherum, Robt. — Bluefield
Goodall, F. C. — Princeton
Gordon, J. C. — Bluefield
Hale, Daniel — Princeton
Harloe, W. M. — Matoaka
Higginbotham, Upshur — Bluefield
Holroyd, F. J. — Princeton
Horton, E. W. — Bluefield
Hosmer, D. L. — Bluefield
Hughes, C. R. — Bluefield
Johnston. Cecil F. — Bluefield
Kechele, D. V. — Bluefield
Kelly, V. L. — Bluefield
King, O. G. — Bluefield
Kirby, Edgar — Bluefield
*Lepper, D. B. — Bluefield
Markell, J. I. — Princeton
McCauley, E. W. — Bluefield
McGuire, John — Bluefield
Neale, Richard C. — Bluefield
Pace, L. J. — Princeton
Peters, I. T. — Princeton
Reynolds, C. J. — Bluefield
Rogers, R. O. — Bluefield
St. Clair, C. T., Jr. — Bluefield
St. Clair, W. H. — Bluefield
St. Clair, W. H., Jr. — Bluefield
Scott, Chas. M. — Bluefield
Shanklin, J. R. — Bluefield
*Shanklin, R. V. — Bluefield
Sinclair, M. W. — Bluefield
Slusher, W. C. — Bluefield
Steele, H. G. — Bluefield
Stuart, R. R. — Bluefield
Tanner, E. M. — Bluefield
Todd, G. L. — Princeton
Todd, G. L., Jr. — Princeton
Van Reenan, A. C. — Bluefield
Vass, T. E. — Bluefield
*Vermillion, J. R. — Princeton
Vermillion, Uriah — Athens
Weier, Karl E. — Bluefield
Yost, J. W. — Princeton

MINGO

Bentley, C. M. — Freeburn (Ky.)
Boland, L. F. — Williamson
Brewster, G. W. — Ft. Thomas (Ky.)
Burien, Frank J. — Williamson
Caton, John E. — Delbarton
Easley, G. W. — Williamson
Farley, James A. — Delbarton
Feldman, Walter S. — Williamson
Gamba, Carl L. — Red Jacket
Gaskel, J. C. — Williamson
Hays, H C. — Williamson
Irvine, G. B. — Williamson
Johnson, J. E. — Stone (Ky.)
Lawson, J. C. — Williamson
McClees, J. E. — Williamson
McClellan, Ernest E. — Williamson
Peery, C. E. — Majestic (Ky.)
Price, W. H. — Chattaroy
Quincy, F. B. — Williamson
Rapp, Roy T. — Williamson
Richardson, Jack L. — Williamson
Stepp, E. P. — Kermit
Walker, W. J. — Iaeger
Zando, S. G. — Williamson

MONONGALIA

Ashworth, Glenn — Morgantown
Baker, Wm. P. — Morgantown
Brannon, Dorsey — Morgantown
Bray, C. M. — Morgantown
Caserta, Peter — Morgantown
*Cobun, L. W. — Morgantown
Coffield, Olan T. — Morgantown
Collins, A. B. — Morgantown
Cottle, S. W. — Morgantown
Crynock, P. D. — Morgantown
Dent, Charles F. — Morgantown
Douglas, Paul L. — Pursglove
Fisher, R. W. — Morgantown
Fleming, Robert J. — Morgantown
Gerchow, K. E. — Morgantown
Heiskell, E. F. — Morgantown
Heiskell, E. F., Jr. — Morgantown
Hobbs, Melford L. — Morgantown
Howell, W. H. — Morgantown
Johnson, C. E. — Morgantown
King, H. V. — Morgantown
King, W. E. — Morgantown
Lawless, J. J. — Morgantown
Madera, W. L. — Morgantown
Mahan, Charles — Morgantown
Maxwell, G. R. — Morgantown
McBee, T. Jud — Morgantown
Miller, F. R. — Morgantown
Moore, B. J. — Morgantown
Moser, W. C. — St. Petersburg (Fla.)
Phillips, G. W. — Morgantown
Pickett, J. C. — Morgantown
*Post, D. M. — Lawrence (Ind.)
Pride, C. B. — Morgantown
Pride, Maynard — Morgantown
Rich, H. A. — Morgantown
Romine, C. C. — Morgantown
Scherr, W. B. — Morgantown
*Simpson, J. N. — Morgantown
Sleeth, C. K. — Morgantown
Stecker, J. F. — Morgantown
Stemple, Margaret — Chicago (Ill.)
*Stout, B. M. — Morgantown
Strawn, L. M. — Morgantown
Thompson, C. T. — Morgantown
Thompson, James — Morgantown
Trotter, J. H. — Morgantown
Trotter, Robt. R. — Morgantown
Tucker, E. B. — Morgantown
Van Liere, E. J. — Morgantown
Warman, W. M. — Morgantown
Whittlesey, F. R. — Morgantown
*Wylie, C. B. — Morgantown

McDOWELL

Anderson, J. H. — Hemphill
Bailey, J. B. — Welch
Bennett, J. A. — Algoma
Best, Earl M., Jr. — Caretta
Booker, A. P. — Coalwood
Bracey, A. H. — Welch
Bracey, H. A. — Welch
Bragonier, R. K. — Keystone
Burger, Roy E. — Welch
Burke, John H. — Elbert
Camper, H. G. — Welch
Carr, A. B. — War
Carr, Robert E. — Elbert
Castrodale, Dante — Welch
Chandler, C. B. — Welch
Chapman, C. B. — Welch
Clark, C. T. — Iaeger
Cochran, C. C. — Kimball
Coleman, Herbert M. — Iaeger
Coulon, N. F. — Thorpe
Counts, W. R. — Welch
Davis, J. E. — Welch
Dunman, L. E. — Gary
Dyer, N. H. — Charleston
Edwards, R. H. — Welch
Elliott, Boyce — Maybeury
Evans, G. P. — Iaeger
Evans, H. P. — Keystone
Fleming, Robt. I. — Keystone
Gates, Edmond O. — Welch
Gibson, E. D. — Coalwood
Goodwin, F. H. — Cleveland (O.)
Hall, W. C. — Welch
Hatfield, D. D. — Yukon
Jackson, C. F. — War
Johnston, W. L. — Princeton
Kirk, E. H. — Richlands (Va.)
Kroll, Peter G. — Mt. Carmel (Pa.)
Linkous, Otis E. — Welch
Lovas, E. E. — Berwind
Milchin, Sam — Jenkinjones
McCarty, J. L. — Berwind
McKee, John S. — Bradshaw
Murry, J H. — Vivian
Read, B. J. — Lynchburg (Va.)
Ringer, Paul H., Jr. — Nashville (Tenn.)
Rivers, D. G. — Gilliam
Saunders, Irvine — Welch
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Smith, M. W. — Biloxi (Miss.)
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Stevens, W. R. — Bartley
Straub, G. L. — Welch
Torregrossa, M. F. — Ashland
Vaughan, Florien — Hemphill
Vermillion, E. E. — Welch
Vick, C. W. — Jenkinjones
Villani, A. J. — Welch
Warren, J. O. — Dillon (S.C.)
Wetherby, V. L. — Welch
Wilson, Arnold — Pasadena (Tex.)
Young, W. B. — Northfork

OHIO

Abersold, G. W. — Wheeling
Ackerman, W. E. — Wheeling
Armbrecht, Geo. L. — Wheeling
Armbrecht, R. J. — Wheeling
Bailey, R. B. — Wheeling
Bandi, R. T. — Wheeling
Belgrade, J. T. — Wheeling
Bickel, C. S. — Wheeling
Bippus, E. S. — Wheeling
Bird, J. D., Jr. — Wheeling
Bobes, S. S. — Wheeling
Boggs, W. C. — Wheeling
Bond, R. C. — Wheeling
Brown, Geo. H. — Wheeling
Buffington, C. B. — Wheeling
Caldwell, J. R. — Wheeling
Clovis, C. H. — Wheeling
Clovis, E. E. — Wheeling
Cope, Paul H. — Wheeling
Copeland, H. B. — Wheeling
Del Vecchio, James J. — Wheeling
Drinkard, R. U. — Wheeling
Farri, L. B. — Wheeling
Fawcett, Ivan — Wheeling
Gaydosh, F. J. — Wheeling
Gaydosh, M. — Wheeling
Gaydosh, M. A., Jr. — Wheeling
Gaynor, John S. — Wheeling
Gill, R. D. — Wheeling
Gilmore, J. W. — Wheeling
Glass, E. F. — Wheeling
Graham, Paul V. — Wheeling
Greeneltch, D. E. — Wheeling
Haislip, N. L. — Wheeling
Hazlett, James C. — Wheeling
Henderson, O. M. — Triadelphia
Hershey, C. D. — Wheeling
Higgins, A. W. — Wheeling
Hiles, Chas. H. — Wheeling
Holley, C. J. — Wheeling
Jones, A. L. — Wheeling
Jones, E. L. — Wheeling
Joseph, N. K. — Wheeling
Joseph, Wilda S. — Wheeling
Kalbfleisch, W. K. — Wheeling
Keesor, C. H. — Wheeling
Klug, T. M. — Wheeling
Lewellyn, R. H. — Elm Grove
Little, H. G. — Wheeling
Lukens, R. W. — Wheeling
Lyon, L. A. — Wheeling
MacGregor, D. A. — Wheeling
Maskrey, Frank R. — Wheeling
McClure, W. T. — Wheeling
McCoy, A. V. — Elm Grove
McCoy, C. G. — Elm Grove
McCurdy, J. A. — Wheeling
McCuskey, W. C. D. — Wheeling
McLain, W. H. — Wheeling
Megahan, Burke — Elm Grove
Meier, J. S. — Wheeling
Moore, John M. — Wheeling
Murphy, J. H. — Wheeling
Niehaus, A. J. — Wheeling
Nolte, A. E. — Wheeling
Osterman, A. L. — Wheeling
Palmer, David W. — Erie (Pa.)
Pell, E. N. — Wheeling
Perilman, Wm. — Wheeling
Peterson, Heyes — Wheeling
Phillips, Earl S. — Wheeling
Phillips, Edward M. — Wheeling
Phillips, Edward S. — Wheeling
Phillips, H. T. — Wheeling
Phillips, R. W. W. — Wheeling
Purpura, Anthony J. — Wheeling
Quimby, W. A. — Wheeling
Rankin, J. O. — Wheeling
Reed, R. J. — Wheeling
Reed, R. J., Jr. — Wheeling
Sammons, W. P. — Wheeling
Sauder, H. R. — Wheeling
Sheppe, W. M. — Wheeling
Snider, R. J. — Wheeling
Sonneborn, Robert M. — Wheeling
Spargo, James E. — Wheeling
Staats, O. M. — Wheeling
Stewart, J. K. — Wheeling
Strobel, G. E. — Wheeling
Thoner, J. G. — Wheeling
Tomassene, R. A. — Wheeling
Tretheway, S. W. — Wheeling
Vieweg, G. L., Jr. — Wheeling
Wanner, A. L. — Wheeling
Webb, W. S. — Warwood
Weiler, H. G. — Wheeling
Williams, M. B. — Wheeling
Zubak, M. F. C. — Wheeling

PARKERSBURG ACADEMY

Adams, W. A. — Parkersburg
Artz, C. P. — Columbus (O.)
Asch, J. T. — Parkersburg
Bateman, George — Williamstown
Batten, James C. — Parkersburg
Bevauqua, W. A. — Parkersburg
Biddle, Robert — Parkersburg
Blair, F. L. — Parkersburg
Blair, Holmes — Parkersburg
Boice, R. H. — Parkersburg
Boling, John — Grantsville
*Boyers, C. L. — Parkersburg
Bronaugh, Wayne — Parkersburg
*Brown, C. N. — Swandale
Brown, Delmer J. — Parkersburg
Brown, Marion S. — Parkersburg
Brundage, O. H. — Parkersburg
*Camp, W. C. — Spencer
Casto, O. J. — Parkersburg
Conley, Orva — Parkersburg
Connolly, Ira — Parkersburg
Connolly, Randall — Parkersburg
Corbitt, Richard — Parkersburg
*Crooks, E. W. — Parkersburg
Davis, R. E. — Parkersburg
Davis, William — Parkersburg
Dearman, A. M. — Parkersburg
Depue, J. M. — Spencer
Fankhouser, Robt. — Parkersburg
*Fisher, M. O. — Parkersburg
Fosnaugh, Robt. P. — Parkersburg
Gaynor, H. E. — Parkersburg
Gilbert, H. F. — Parkersburg
Gilmore, M. A. — Parkersburg
Goff, E. T. — Parkersburg
Goff, S. W. — Parkersburg
Goff, W. R. — Parkersburg
Goodhand, Charles — Parkersburg
Hamilton, Richard — St. Marys
Harris, T. L. — Parkersburg
Harsha, G. M. — Sistersville
Hartman, E. C. — Parkersburg
Hively, H. D. — Omar
Holmes, E. B. — Parkersburg
Hovis, Logan — Parkersburg
Jones, A. M. — Parkersburg
Jones, James P. — Pennsboro
Jones, L. P. — Pennsboro
Judy, W. J. — Elkins
Keith, T. W. — Harrisville
Keller, Frederick D. — Parkersburg
Kizinski, I. M. — Parkersburg
*Kraft, C. D. — Parkersburg
Lattimer, R. D. — Parkersburg
Leeson, L. R. — Parkersburg
Lincicome, Robert — Parkersburg
Lutz, A. R. — Parkersburg
McCuskey, Paul L. — Parkersburg
*Miller, R. B. — Parkersburg
Moore, Dana T. — Parkersburg
Newman, R. C. — Spencer
Nicholson, B. B. — Parkersburg
Potter, Fred J. — Parkersburg
Priddy, N. D. — Ravenswood
Prunty, S. M. — Parkersburg
*Rogers, J. G. — Parkersburg
Rogers, Watson F. — Parkersburg
*Rose, L. O. — Cincinnati (O.)
Santer, M. A. — Parkersburg
Shafer, C. W. — Baltimore (Md.)
Sheridan, Richard — Parkersburg
Sidell, A. R. — Williamstown
Staats, E. D. — Ripley
Staats, Roydice — Huntington
Stark, Jack — Belpre (O.)
Starkey, P. C. — Ravenswood
Thrasher, E. L. — Sistersville
Ulch, H. W. — Parkersburg
Veon, H. H. — Parkersburg
Wade, J. L. — Parkersburg
Walton, L. E. — Pennsboro
Wharton, R. H. — Parkersburg
Widmeyer, R. S. — Parkersburg
*Wise, S. D. H. — Parkersburg
Woofter, A. C. — Parkersburg
*Wright, E. L. — Parkersburg
Yeager, W. R. — Parkersburg

POTOMAC VALLEY

Berry, P. E., Jr. — Piedmont
Bess, Robert W. — Piedmont

Bess, Thomas ..... Keyser
Brooks, O. V. ..... Moorefield
Coffman, Harry ..... Keyser
Coffman, Robert T. ..... Keyser
Courrier, E. A. ..... Keyser
Dailey, R. W. ..... Romney
*Drinkwater, W. G. ..... Gormania
Dyer, V. L. ..... Petersburg
Easton, J. F. ..... Romney
Flick, W. A. ..... Keyser
Giffin, T. C. ..... Keyser
Grove, J. B. ..... Petersburg
Hartle, Gerald E. ..... Moorefield
Huffman, T. T. ..... Keyser
Johnson, S. B. ..... Franklin
King, C. E. ..... Petersburg
Love, R. W. ..... Moorefield
Maxwell, M. H. ..... Moorefield
Mitchell, O. F. ..... Franklin
Moyers, B. F. ..... Mathias
Reynolds, O. S. ..... Franklin
Sites, Charles J. ..... Franklin
Veach, Lysle T. ..... Petersburg
Wilson, P. R. ..... Piedmont
Wolverton, J. H. ..... Piedmont
Wolverton, J. H., Jr. ..... Piedmont

PRESTON

Arnett, J. C. ..... Rowlesburg
Brown, Donald P. ..... Kingwood
Cashman, Harold H. ..... Hopemont
†Davis, DelRoy R. ..... Kingwood
*Fortney, F. D. ..... Beckley
Greene, Ralph C. ..... Memphis (Tenn.)
Jamison, W. P. ..... Oakland (Md.)
Johnson, W. P., Jr. ..... Arthurdale
Lehman, J. F. ..... Kingwood
McIntire, T. S. ..... Kingwood
†McLane, R. A., Jr. ..... Masontown
Miller, B. B. ..... Eglon
Miller, H. C. ..... Eglon
Moser, C. Y. ..... Kingwood
Salkin, David ..... Hopemont
Smith, C. E. ..... Terra Alta
Starkey, A. L. ..... Hopemont
Watkins, David A. ..... Buckhannon
*Watson, E. E. ..... Kingwood
White, S. R. ..... Bruceton Mills

RALEIGH

Asbury, Chas. W. ..... Hamilton (O.)
Ashton, D. C. ..... Beckley
Bailey, Meryleen ..... Peterstown
Banks, F. L. ..... Beckley
*Banks, M. C. ..... Raleigh
Batalion, A. L. ..... Ameagle
Bowles, A. G. ..... Beckley
Broaddus, R. G. ..... Beckley
Campbell, J. A., Jr. ..... Miami (Fla.)
Chambers, R. W. ..... Beckley
Coram, J. M. ..... Beckley
Covey, W. C. ..... Beckley
Covey, W. C., Jr. ..... Baltimore (Md.)
Cunningham, G. R. ..... Tams
Cunningham, W. H. ..... Beckley
Daniel, D. D. ..... Beckley
*Daniel, G. P. ..... Glen Daniel
Daniel, R. P. ..... Pemberton
Davis, Chas. E., Jr. ..... Beckley
Dupuy, Samuel S. ..... Scarbro
*Eakin, B. W. ..... Blacksburg (Va.)
Edwards, Hugh S. ..... Beckley
Ford, S. A. ..... Beckley
Garrett, T. F. ..... Sprague
Godbey, John Q. ..... Glen Daniels
Gwinn, G. E. ..... Beckley
Halloran, L. M. ..... Beckley
Harkleroad, F. S. ..... Beckley
Heagarty, John P. ..... Layland
Hedrick, E. H. ..... Beckley
Hedrick, G. C., Jr. ..... Beckley
Houser, L. G. ..... Beckley
*Jarrell, D. B. ..... Beckley
*Johnson, G. W. ..... McAlpin
Joseph, Alfred ..... Montcoal
Kessel, Clark ..... Beckley
King, E. L. ..... Beckley
Mays, W. C. ..... Stanaford
McKenzie, J. E. ..... Beckley
*Mitchell, R. C. ..... Sophia
*Moore, F. J. ..... Killarney
Moran, W. G., Jr. ..... Cranberry
Newman, J. W. ..... Lillybrook
Newman, Ross E. ..... Beckley
Peter, B. K. ..... Beckley
Pomputius, W. F. ..... Helen
Ralsten, M. M. ..... Beckley
Rardin, W. H. ..... Beckley
Richmond, B. B. ..... Huntington
Richmond, W. Fred ..... Beckley
*Riley, W. M. ..... Whitbey
Ruark, W. T. ..... Beckley
Shaffer, H. A. ..... Beckley
Shrewsbury, L. E. ..... Beckley
Smith, C. A. ..... Raleigh
Smith, Robert J. ..... Peterstown
Tieche, A. U. ..... Beckley
Vaughan, P. E. ..... Beckley
Vermillion, T. U. ..... Beckley
Whitlock, J. W. ..... Affinity
Wray, Everett B. ..... Stotesbury
*Wriston, Robert ..... Beckley

SUMMERS

*Cooper, O. O. ..... Feather Falls (Calif.)
Holmes, Albert W. ..... Hinton
Howard, C. L. ..... Hinton
McNeer, B. W. ..... Hinton
McNeer, F. L. ..... Hinton
Pence, G. L. ..... Hinton
Ritter, D. W. ..... Hinton
Stokes, J. W. ..... Hinton
Van Sant, W. L. ..... Hinton

TAYLOR

Campbell, O. S. ..... Grafton
Haislip, Charles A. ..... Grafton
Heironimus, T. W., Jr. ..... Grafton
Kimble, J. U. ..... Grafton
Shafer, C. F. ..... Grafton
Shanes, Herbert N. ..... Grafton
Stout, L. D. ..... Grafton
Warden, Paul P. ..... Grafton

WETZEL

Blum, E. C. ..... New Martinsville
Dyer, A. M., Jr. ..... Pine Grove
Gordon, T. B. ..... New Martinsville
Hornbrook, Kent ..... New Martinsville
*Martin, F. E. ..... New Martinsville
Miller, R. F. ..... Paden City
Pyles, John W. ..... New Martinsville
Theiss, John O. ..... New Martinsville
Viggiano, M. A. ..... New Martinsville
Zinn, R. H. ..... Hundred

WYOMING

Biggart, J. F. ..... Mullins
Dearing, Walter ..... Amigo
Hatfield, R. C. ..... Oceana
Khorozian, K. G. ..... Pineville
†Mangus, J. E. ..... Pineville
Penn, F. H. ..... Mullens
Steele, B. W. ..... Mullens
Taylor, Harwood A. ..... Mullins
Upchurch, C. T. ..... Kopperston
Wilkinson, D. D. ..... Wyco
Wilkinson, E. M. ..... Pineville
Wylie, Ward ..... Mullens
Zsoldos, F. J. ..... Glen Rogers

WEST VIRGINIA STATE MEDICAL ASSOCIATION

ANNUAL ROSTER OF MEMBERS

(Alphabetical List)

— A —

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Ackermann, W. E. Wheeling
Adams, W. A. Parkersburg
Albrecht, Mordecai Charleston
Aliff, J. Paul Charleston
Aliff, Robert C. Richmond (Va.)
Allen, E. Ross Clarksburg
*Allen, S. P. Webster Springs
Allman, W. H. Clarksburg
Altizer, A. E. Accoville
Amick, Andrew E. Lewisburg
*Amick, A. L. Charleston
Amick, F. E. Charleston
Anderson, J. H. Hemphill
Anderson, R. L. Charleston
Andrew, H. M. Weston
Angell, H. W. Charleston
†Appleby, Geo. S. Martinsburg
Armbrecht, Geo. L. Wheeling
Armbrecht, Robert J. Wheeling
Armentrout, A. W. Martinsburg
Armentrout, L. H., Jr. Charleston
Arnett, J. C. Rowlesburg
Arnold, J. E. Cameron
Artz, Curtis P. Columbus (O.)
Asbury, Charles W. Hamilton (O.)
Asch, James T. Parkersburg
Ashman, Hyman New York (N.Y.)
Ashton, D. C. Beckley
Ashworth, Glenn Morgantown
Ashworth, Harold B. Moundsville
*Ashworth, Robert A. Moundsville
Aultz, L. L. Ward

— B —

Baber, James H. Huntington
Bachwitt, David So. Charleston
Baer, Robert E. So. Charleston
Baer, Thomas B. Huntington
Bailey, H. A. Charleston
Bailey, J. B. Welch
Bailey, Meryleen Peterstown
Bailey, Russell B. Wheeling
Bailey, R. W. Hurricane
Baker, James P. White Sulphur Springs
Baker, W. P. Morgantown
Baldock, H. E. Charleston
Ballard, O. D. Van
Bandi, R. T. Wheeling
Banks, F. L. Beckley
Banks, J. B. Charleston
*Banks, M. C. Raleigh
Barber, Daniel N. Charleston
Barber, T. Maxfield Charleston
Barbour, W. L. Whitesville
Barker, J. F. Huntington
Baron, L. E. Mannington
Barrett, R. S. Huntington
Barr, James M. Worthington
Basman, Jack Charleston
Batalion, A. L. Ameagle
Bateman, H. G. Williamstown
Batten, James C. Parkersburg
Bays, A. E. Montgomery
Beard, H. E. Huntington
Beaumont, G. L. New Cumberland
Beckner, W. F. Huntington
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Belknap, Helen M. St. Albans
Bennett, J. A. Algoma
Benson, Don S. Moundsville
Bentley, C. M. Freeburn (Ky.)
Berkley, Julius L. Elkins
Berry, P. E., Jr. Piedmont
Bertling, M. H. Rock Creek (O.)
Bess, R. W. Piedmont
Bess, Thomas Keyser
Best, Earl M., Jr. Caretta
Bevauqua, W. A. Parkersburg
Bickel, Carl S. Wheeling
Biddle, Robert Parkersburg
Biern, O. B. Huntington
Biggart, J. F. Mullens
Bilger, F. W. McComas
Bippus, E. S. Wheeling
Bird, Ben W., Jr. Princeton
Bird, J. D., Jr. Wheeling
Bitner, E. H. Martinsburg
Bittinger, W. P. Summerlee
Bivens, S. L. Charleston
Black, W. P. Charleston
Blagg, B. V. South Charleston
Blair, F. L. Parkersburg
Blair, Holmes Parkersburg
Blake, T. H. St. Albans
Blaydes, J. E. Bluefield
Bloss, J. R. Huntington
Blum, E. C. New Martinsville
Bobbitt, O. H. Charleston
Bobbitt, R. M. Huntington
Bobes, S. S. Wheeling
Bock, R. C. Charleston
Bogarad, M. Weirton
Boggs, Hunter Charleston
Boggs, W. C. Wheeling
Boiarsky, Julius L. Charleston
Boice, R. H. Parkersburg
Boland, L. F. Williamson
Boling, John Grantsville
Bonar, M. L. Charleston
Bond, R. C. Wheeling
*Bone, B. F. Moundsville
Bonnar, J. M. Fairmont
Booher, W. T. Wellsburg
Booker, A. P. Coalwood
Boso, C. H. Huntington
*Bosworth, J. L. Elkins
Bourne, W. D. Barboursville
Bowles, A. G. Beckley
Bowyer, A. B. Charleston
*Boyers, C. L. Parkersburg
Bracey, A. H. Welch
Bracey, H. A. Welch
Bradford, Bert, Jr. Charleston
Bradford, Wm. P. Moundsville
Brady, A. Spates, Jr. Charleston
Bragonier, R. K. Keystone
Brake, B. S. Clarksburg
Brammer, F. E. Dehue
Brand, J. M. Chester
Brandabur, J. J. Huntington
Brannon, Dorsey Morgantown
Brannon, E. H. Bridgeport
Bray, C. M. Morgantown
Breisacher, C. F. Charleston
Brennan, J. T. Clarksburg
Bressler, David Monongah
Brewer, W. E. Logan
Brewster, G. W. Ft. Thomas (Ky.)
Brick, John P. Charleston
Broaddus, R. G. Beckley
Bronaugh, Wayne Parkersburg
Brooks, O. V. Moorefield
Brown, B. F. Huntington
Brown, C. Leonard Pt. Pleasant
*Brown, C. N. Swandale
Brown, Delmer J. Parkersburg
Brown, Donald P. Kingwood
Brown, E. S. Summersville
Brown, F. A. Huntington
Brown, Geo. H. Wheeling
Brown, H. M. Charleston
*Brown, H. S. Sutton
Brown, J. R. Huntington
Brown, Marion S. Parkersburg
*Brown, R. J. Sutton
Bruce, T. H. New Cumberland
*Brugh, Ben F. Clearwater (Fla.)
Brundage, O. H. Parkersburg
*Bruns, William F. Ceredo
Bryant, R. F. New Haven
Bucher, Samuel Harman
Buff, I. E. Charleston
Buffington, C. B. Wheeling

Buford, R. K. Charleston
Bull, S. W. Spencer
Bundy, W. E. Oak Hill
Burdette, R. A. Charleston
Burger, R. E. Welch
Burian, F. J. Williamson
Burke, C. P. Medora (Ill.)
Burke, John H. Elbert
*Burton, G. M. Weston
*Burton, S. H. Weston
Bush, Kyle Philippi
Butt, A. P. Elkins
Butte, C. I., Jr. Matoaka

— C —

Caldwell, Joseph R. Wheeling
Calfee, Wm. R. Whitesville
Calvert, J. W. Lynbrook (N.Y.)
Calvert, R. L. Marmet
*Camp, Wm. C. Spencer
Campbell, J. A., Jr. Miami (Fla.)
Campbell, O. C. Hamlin
Campbell, O. S. Grafton
Camper, Harry G. Welch
Cannaday, John E. Charleston
Capito, G. B. Charleston
Cardey, N. L. Los Angeles (Cal.)
Carney, Harry A. Charleston
Carr, A. B. War
†Carr, Joel F. Huntington
Carr, Robert E. Elbert
Carter, C. J. Fairmont
Carter, E. S., Jr. Montgomery
Caserta, Peter Morgantown
Cashman, Harold H. Hopemont
Casto, O. J. Parkersburg
Castrodale, Dante Welch
Caton, John E. Delbarton
Chambers, H. D. Huntington
Chambers, R. W. Beckley
Chambers, V. L. Huntington
Champe, I. P., Jr. Charleston
Chandler, A. C. Charleston
Chandler, C. B. Iaeger
Chandler, F. C. Bridgeport
Chapman, C. B. Welch
Christian, L. E. Huntington
Churchman, V. T., Jr. Charleston
Claiborne, W. L. Montgomery
Clair, Eli C. Belle
Clapham, Roger E. Martinsburg
Clark, C. T. Iaeger
Clark, F. A. Charleston
Clay, C. Stafford Huntington
Clements, B. S. Matoaka
Clinton, J. B. Fairmont
Clovis, Charles H. Wheeling
Clovis, E. E. Wheeling
Clubb, E. M., Jr. McMechen
*Cobun, L. W. Morgantown
Cochran, C. C. Kimball
Cofer, J. M. Bergoo
Coffey, F. L. Huntington
Coffield, Olan T. Morgantown
Coffindaffer, R. S. Shinnston
Coffman, Harry Keyser
Coffman, Robert Keyser
Coleman, H. M. Iaeger
Collins, A. B. Morgantown
Collins, James C. Fairmont
Combes, Lloyd G. Holden
Compton, J. W. Ronceverte
Condry, John C. Charleston
Condry, R. J. Elkins
Conklin, Carl P. Huntington
Conley, Orva Parkersburg
Connell, H. A. Bluefield
Connolly, Ira Parkersburg
Connolly, Randall Parkersburg
Conrad, H. R. Elkins
Cook, J. R. Huntington
Cooke, W. L. Charleston
Cooper, E. R. Troy
*Cooper, O. O. Feather Falls (Calif.)
Cope, Paul H. Wheeling
*Copeland, C. E. Charleston
Copeland, H. B. Wheeling
Coplin, R. W. Huntington
Coram, J. M. Beckley
Corbitt, Richard Parkersburg
Corder, G. G. Jane Lew
Corder, O. W. Weston
Cottle, S. W. Morgantown
Coulon, N. F. Thorpe
Counts, W. R. Welch
Courrier, E. A. Keyser
*Covert, O. F. Moundsville
Covey, W. C. Beckley
Covey, W. C., Jr. Baltimore (Md.)
Cox, L. E. Charleston
Crank, Gilbert O. Los Angeles (Calif.)
*Crews, A. W. Huntington
Criss, H. L. Fairmont
Cronin, D. J. Huntington
*Crooks, E. W. Parkersburg
Cruikshank, D. P. Lumberport
Crynock, P. D. Morgantown
Cunningham, G. R. Tams
Cunningham, W. H. Beckley
Curry, R. H. Barboursville
Cutright, R. G. Buckhannon

— D —

Dailey, R. W. Romney
Daniel, D. D. Beckley
*Daniel G. P. Glen Daniel
Daniel, R. P. Pemberton
Daniels, W. F. Huntington
Davidson, S. G. Bluefield
Davidson, S. P. Boomer
Davis, C. A. Logan
Davis, Charles E., Jr. Beckley
†Davis, Delroy R. Kingwood
*Davis, E. A. Charleston
*Davis, Edward Salem
Davis, H. C. Bluefield
Davis, J. E. Welch
Davis, R. E. Parkersburg
Davis, W. B. Rainelle
Davis, W. M. Bridgeport
Davis, Wm. Parkersburg
Davisson, C. R. Weston
Dawson, Rank O. Charleston
Dearing, Walter H. Amigo
Dearman, A. M. Parkersburg
Deason, Virgil A. Logan
*Deeds, L. W. Buckhannon
Del Vecchio, J. J. Wheeling
Dent, C. F. Morgantown
Dent, Duke A. Charleston
Dennison, Robert R. Huntington
DePue, J. M. Spencer
DiCello, A. J. Elkins
Dickerson, L. A. Charleston
Dillinger, K. A. Weston
Dobbs, F. H. Charleston
Dobbs, L. F. Huntington
*Doddrill, J. B. Webster Springs
Dodson, Ross M. Huntington
Donelson, Martin, Jr.
Dorsey, C. S. Kingston
Dotson, Samuel C., Jr. Cameron
Douglas, Paul L. Pursglove
*Drinkwater, W. G. Gormania
Drinkard, R. U., Jr. Wheeling
Duling, M. S. Charleston
Duncan, C. S. Huntington
Dunlap, J. L. Nitro
Dunman, L. E. Gary
Dunn, E. T., Jr. South Charleston
*Dunn, Hugh Richwood
Dunn, R. H. South Charleston
Dunne, Thomas L. Charles Town
DuPuy, S. S. Scarbro
Dyer, Allen M., Jr. Pine Grove
Dyer, N. H. Charleston
Dyer, V. L. Petersburg

— E —

Eagle, A. B. Martinsburg
*Eakin, B. W. Blacksburg (Va.)
Eakle, J. C. Sutton
*Eakle, O. O. Sutton
Ealy, D. L. Moundsville
Easley, G. W. Williamson
Easton, J. F. Romney
Echols, J. E. Richwood
Echols, W. E. Richwood
Eckmann, Leonard So. Charleston
Edwards, Hugh S. Beckley
Edwards, R. H. Welch
Elkin, W. Paul Charleston
Elliott, Boyce Maybeury
Engelfried, C. H. Charleston
Erwin, Frank L. Burnwell
Escue, H. M. Charleston
*Esker, H. H. Clarksburg
Esposito, Albert C. Huntington
Evans, E. J. Richmond (Va.)
Evans, G. F. Clarksburg

Evans, G. P. Iaeger
Evans, Geo. T. Idamay
Evans, H. P. Keystone
Eves, Frank P. Charleston

— F —

Falconer, H. S. Fairmont
Fankhouser, Robert Parkersburg
Farley, H. H. Logan
Farley, James A. Delbarton
Farrell, M. E. Clarksburg
Farri, L. B. Wheeling
Fawcett, Ivan Wheeling
Feldman, John L. New York (N.Y.)
Feldman, Walter S. Williamson
*Ferguson, J. W. Kenova
Ferrell, A. D. Lewisburg
Ferrell, R. M. Lewisburg
Fisher, Charles F. Clarksburg
Fisher, H. H. Dunbar
Fisher, James E. New Cumberland
*Fisher, M. O. Parkersburg
Fisher, Earl L. Gassaway
Fisher, Ralph M. Weston
Fisher, R. W. Morgantown
Fleming, H. C. Fairmont
Fleming, Robert Morgantown
Fleming, Robt. I. Keystone
Fleshman, C. M. Clendenin
Flick, W. A. Keyser
Flood, R. E. Hollidays Cove
Flowers, Earl N. Clarksburg
Focer, R. L. Weirton
Folk, John Bridgeport
Folsom, T. G. Huntington
Ford, C. P. S. Huntington
Ford, J. C. Huntington
Ford, Ralph J. Spencer
Ford, Scott A. Beckley
Forman, Worth B. Buckhannon
*Fortney, F. D. Beckley
Fosnaugh, Robert P. Parkersburg
Fowlkes, R. H. Bluefield
Fox, J. F. Bluefield
Fox, M. R. Charles Town
Fox, P. R. Bluefield
Frame, Eugene M. Winona
Frame, R. I. Sharples
Frank, Ludwig Charleston
Frazier, Claude Huntington
Frazier, J. W. Charleston
Frazier, Ralph Fayetteville
French, A. M. Logan
Friedman, Norman Cleveland (O.)
Fry, S. Oscar Charles Town
Frye, Robert R. Mannington
Fugate, R. C. Bluefield

— G —

Gage, E. L. Bluefield
Gallagher, Mary V. Charleston
Gamba, Carl L. Red Jacket
Gang, L. B. Huntington
Garrett, T. F. Sprague
Gaskel, Jerome C. Williamson
Gates, E. O. Welch
Gatherum, Robert S., Jr. Bluefield
Gaydosh, F. J. Wheeling
Gaydosh, Michael Wheeling
Gaydosh, M. A., Jr. Wheeling
Gaynor, H. E. Parkersburg
Gaynor, John S. Wheeling
Genge, Cole D. Huntington
Genin, F. G. Clarksburg
Gerchow, Keith E. Morgantown
Gerhardt, Paul R. Charleston
Gerlach, Earl B. Huntington
German, John D. Huntington
Gibson, A. P. Huntington
Gibson, E. D. Coalwood
Giffin, T. C. Keyser
Gilbert, H. F. Parkersburg
Gill, R. D. Wheeling
Gilman, Joseph Clarksburg
Gilmore, J. W. Wheeling
Gilmore, M. A. Parkersburg
Given, A. J. Rensford
Glass, Earl F. Wheeling
Glass, H. R. Charleston
Glass, Wm. J. Sissonville
Glass, Wm. J., Jr. Sissonville
Glasscock, James R. Richwood
Glassman, Dan Pt. Pleasant
Glenn, Marshall Charles Town
Glover, A. E. Madison
Glover, V. L. Martinsburg
Gocke, Jack T. Clarksburg
Gocke, Thomas V. Clarksburg
Gocke, Wm. T. Clarksburg
Godbey, John Q. Glen Daniel
Godbey, John R. Charleston
Goff, E. T. Parkersburg
Goff, S. W. Parkersburg
Goff, Wm. R. Parkersburg
Gohmann, Joseph T. Rainelle
Golden, B. I. Elkins
Golz, H. H. (Arabia)
Goodall, F. C. Princton
Goodhand, Charles L. Parkersburg
Goodman, Sander Cincinnati (O.)
Goodwin, F. H. Cleveland (O.)
Goodwin, O. M. Galloway
Goodwin, Thomas M. Elkins
Gordon, A. T. Spencer
Gordon, J. C. Bluefield
Gordon, P. L. Belle
Gordon, T. B. New Martinsville
Gotses, Paul S. Huntington
Gott, E. F. Charleston
Grace, James F. Cabin Creek
Graham, Paul V. Wheeling
Grainger, G. A. Farmington
Grant, Sylvia S. Park
Gray, David B. Quinwood
Gray, James H. Ward
Gray, P. L. Elkins
Gregg, L. O., Jr. Davis
Greene, Joseph L. Logan
Greene, Ralph C. Memphis (Tenn.)
Greeneltch, D. E. Wheeling
Greer, C. C. Clarksburg
Grimm, Robert B. Cameron
Grimm, Wilson O. Beckley
Grisinger, G. F. Charleston
Grove, J. B. Petersburg
Grove, Thomas L. Huntington
†Grove, Owen A. Charleston
Grubb, Geo. L. Charleston
Gunning, Harold D. Ronceverte
Guthrie, J. A. Huntington
Guthrie, J. K. Martinsburg
Gwinn, G. E. Beckley

— H —

Hager, James L. Charleston
Haislip, C. A. Grafton
Haislip, N. L. Wheeling
Hale, Daniel Princeton
Haley, John B. Charleston
Haley, Peter A. II Charleston
Hall, C. B. Charleston
*Hall, C. H. Boothsville
Hall, Joseph E. Newell
Hall, Roberta Weston
Hall, Sobisca S. Clarksburg
Hall, W. C. Welch
Halloran, L. M. Beckley
Halloran, R. O. Charleston
Haltom, W. L. Martinsburg
Hamilton, D. D. Mannington
*Hamilton, E. M. Belington
Hamilton, O. L. Huntington
Hamilton, Richard St. Mary's
Hamilton, W. P. Chapmanville
Hamner, C. E. Spencer
Hamrick, R. E. Charleston
Hamrick, R. S. St. Albans
Hanifan, R. K. Clarksburg
Hanssmann, I. J. Philippi
Hardesty, W. L. Charleston
Hardman, J. C. Miami (Fla.)
*Hardwick, Richard Huntington
Harkleroad, F. S. Beckley
Harless, L. R. Gauley Bridge
Harless, W. F. Madison
Harloe, W. M. Matoaka
Harmon, Paul H. Huntington
Harper, C. A. Clendenin
Harper, O. M. Clendenin
Harper, W. G. Elkins
Harris, T. G. West Milford
Harris, T. L. Parkersburg
Harrison, C. S. Clarksburg
Harsha, Gene M. Sistersville
Hartle, G. E. Moorefield
Hartman, E. C. Parkersburg
Hartman, I. F. Buckhannon
Hartwig, W. B. Wheeling
Harwood, I. R. Huntington

Hash, John W. — Charleston
Hatfield, D. D. — Yukon
Hatfield, H. D. — Huntington
Hatfield, R. C. — Oceana
Hatton, Don V. — Huntington
*Hawes, Charles M. — Huntington
Hawkins, R. F. — Lewisburg
†Hayden, Geo. D. — Huntington
Hayes, E. R. — Chelyan
Haynes, H. H. — Clarksburg
Hayman, J. S. — Huntington
Hays, Henry C. — Williamson
Hazlett, James C. — Wheeling
Heagarty, John P. — Layland
Hedrick, E. H. — Beckley
Hedrick, G. C., Jr. — Beckley
Heffner, G. P. — Charleston
Hegner, H. L. — Wellsburg
Heironimus, T. W., Jr. — Grafton
Heiskell, E. F. — Morgantown
Heiskell, E. F., Jr. — Morgantown
Helmick, J. P. — Fairmont
Henderson, O. M. — Triadelphia
Hendrix, N. B. — Martinsburg
Henson, E. B. — Charleston
*Hereford, W. D. — Huntington
Hershey, C. D. — Wheeling
Hess, D. S. — Shinnston
*Hicks, I. C. — Huntington
Hickson, E. W. — Fairmont
Higginbotham, Upshur — Bluefield
Higgins, A. W. — Wheeling
Hiles, Charles H. — Wheeling
Hill, David H. — Madison
*Hill, E. A. — Greenwood
Hill, G. D. — Camden-on-Gauley
Hill, L. O. — Camden-on-Gauley
Hill, W. G. C. — Live Oak (Fla.)
Hills, H. M., Jr. — Charleston
Hines, N. F. — Huntington
*Hinsdale, Guy — Charlottesville (Va.)
Hirschman, I. I. — Huntington
Hively, H. D. — Omar
Hobbs, M. L. — Morgantown
Hodges, F. C. — Huntington
Hodges, G. G. — Mt. Hope
Hoffman, C. A. — Huntington
Hoffman, W. E. — Charleston
Hoitash, F. J. — Huntington
Hoke, L. I. — Nitro
Holcombe, V. E. — Charleston
*Holland, C. L. — Fairmont
Holland, E. A. — Fairmont
Holley, C. J. — Wheeling
Holmes, Albert W. — Hinton
Holmes, E. B. — Parkersburg
Holroyd, F. J. — Princeton
Hoover, S. R. — Huntington
Hornbrook, K. M. — New Martinsville
Horton, E. W. — Bluefield
Hosmer, D. L. — Bluefield
Houck, C. L. — Carbon
Houck, M. R. — Carbon
Houser, L. G. — Beckley
Hovis, Logan — Parkersburg
Howard, C. L. — Hinton
Howell, H. H. — Madison
Howell, W. H. — Morgantown
Hresan, M. G. — Fayetteville
Hubbard, J. E. — Huntington
Hudgins, A. P. — Charleston
*Hudkins, O. L. — Weston
Huffman, J. C. — Buckhannon
Huffman, T. T. — Keyser
Huffman, W. W. — Gassaway
Hughes, C. B., Jr. — Montgomery
Hughes, C. R. — Bluefield
Humphrey, E. J., Jr. — Huntington
Humphries, R. T. — Clarksburg
Hunt, R. B. — St. Louis (Mo.)
Hunter, E. H. — Webster Springs
Hunter, J. Ross — Charleston
Hunter, Jack W. — Webster Springs
*Hunter, R. L. — Whitesville
Hunter, W. B. — Huntington
Hutchison, J. L. — Huntington
Hutchinson, B. M. — Sutton
Hutchinson, T. H. — Malden
Hyman, B. M. — Montgomery

— I —

Ireland, R. A. — Charleston
Irons, William E. — Huntington
Irvine, G. B. — Williamson
Irwin, G. G. — Charleston

— J —

Jabaut, S. W. — Shinnston
Jackson, C. C. — East Rainelle
Jackson, C. F. — War
Jackson, H. M. — Brooklyn
Jackson, Kenna — Clarksburg
Jacob, S. S. — Detroit (Mich.)
James, W. E. — Laconia (N.H.)
Jamison, Frank R. — Logan
Jamison, W. P. — Oakland (Md.)
Jarrell, C. A. — Charleston
*Jarrell, Dennis B. — Beckley
Jarrett, J. N. — Oak Hill
Jarrett, J. T. — Charleston
Jarrett, L. A. — Dunbar
Jarrett, M. F. — Charleston
Jarvis, C. C. — Clarksburg
Jaskiewicz, C. F. — Huntington
Jeffreys, E. M. — Philippi
Jenkins, J. J. — Farmington
Jenkins, J. J., Jr. — Farmington
Johnson, Carl E. — Morgantown
Johnson, C. E. — Parsons
Johnson, G. D. — Huntington
*Johnson, G. W. — McAlpin
*Johnson, H. R. — Fairmont
Johnson, J. E. — Stone (Ky.)
Johnson, P. C. — Belle
Johnson, Philip — Fairmont
Johnson, S. B. — Franklin
Johnson, W. P., Jr. — Arthurdale
Johnston, C. F. — Bluefield
Johnston, W. L. — Princeton
Jones, A. M. — Parkersburg
Jones, A. L. — Wheeling
Jones, A. S. — Huntington
Jones, E. E., Jr. — Mt. Hope
Jones, E. L. — Wheeling
Jones, J. P. — Pennsboro
Jones, L. P. — Pennsboro
Jones, Paul A. — Huntington
Jones, R. Harold — Fairmont
Jones, Ralph J. — Charleston
Jordan, E. V. — Charleston
Joseph, Alfred — Montcoal
Joseph, N. K. — Wheeling
Joseph, Wilda S. S. — Wheeling
Judy, W. J. — Elkins
Justice, E. L. — Hollidays Cove

— K —

Kalbfleisch, Wm. K. — Wheeling
Kammer, A. G. — South Charleston
Kappes, W. Carl — Huntington
Kaufman, E. L. — McMechen
Kechele, D. V. — Bluefield
Keesor, C H. — Wheeling
Keister, H. S. — Fairmont
Keith, T. W. — Harrisville
Keller, F. D. — Parkersburg
Kelley, A. O. — Wallace
Kelly, V. L. — Bluefield
*Kemper, A. J. — Clarksburg
Kerr, J. C. — Clarksburg
Kessel, C. R. — Ripley
Kessel, H. Clark — Beckley
Kessel, Ray — Charleston
Kessel, Russel — Charleston
Ketchum, D. P. — Huntington
Ketchum, R. D. — Charleston
Khorozian, K. G. — Pineville
Kilmer, J. H. — Martinsburg
Kimble, J. U. — Grafton
King, C. E. — Petersburg
King, E. L. — Beckley
King, H. V. — Morgantown
King, L. S. — Philippi
King, O. G. — Bluefield
*King, W. P. — Weston
King, Wm. E. — Morgantown
*Kinney, C. L. — Fairmont
Kinney, E. R. — Fairmont
Kirby, E. W., Jr. — Bluefield
Kirk, E. H. — Richlands (Va.)
Kizinski, A. B. — Logan
Kizinski, I. M. — Parkersburg
Klausman, W. A. — Rupert
Klug, T. M. — Wheeling
Klumpp, J. S. — Huntington
Klyza, S. J. — Chicago (Ill.)
Knapp, J. L. — Weston
Koenigsberg, Max — Charleston
*Kraft, C. D. — Parkersburg
Krimsky, Joseph — Huntington
Kroack, K. J. — Elkins

Kroll, P. G. Mt. Carmel (Pa.)
Kruger, I. M. Logan
Kuhn, Beatrice H. Charleston
Kuhn, Harold H. Charleston

— L —

Ladwig, O. W. Clarksburg
Laird, T. Kerr Montgomery
Laird, Wm. R. Montgomery
Lambert, L. R. Fairmont
Lampton, A. K. Charleston
Lance, V. L. Charleston
Langfitt, F. V. Clarksburg
Lanham, A. G. Ronceverte
Lattimer, R. D. Parkersburg
Law, H. D. Charleston
Lawless, J. J. Morgantown
Lawson, A. F. Weston
Lawson, C. S. Fairmont
Lawson, Claude S., Jr. Fairmont
Lawson, J. C. Williamson
Lawson, L. W. Logan
*Lawson, S. B. Logan
Lawson, W. T. Fairmont
*Leahy, W. J. Mannington
Leech, J. G. Quinwood
Leef, J. L. Richwood
Leeson, L. R. Parkersburg
Lehman, J. F. Kingwood
Lembright, J. F. Clarksburg
Lemon, C. W. Lewisburg
Lenox, John E. Philippi
Leonard, C. L. Elkins
*Lepper, D. B. Bluefield
Levy, Fritz Huntington
Lewellyn, R. H. Wheeling
Lewis, A. C. Seth
Lewis, C. E. Charleston
Lewis, R. A. Charleston
Liggett, B. L. Mill Creek
Lilly, Goff P. Charleston
Lilly, J. P. Charleston
Lilly, Milton J. Charleston
Lincicome, Robt. Parkersburg
Linger, R. B. Clarksburg
Link, Vaughan H. Shepherdstown
Linkous, Otis E. Welch
Litsinger, E. A. Charleston
Little, H. G. Wheeling
Litton, A. C. Charleston
Long, F. C. Pt. Pleasant
Louft, R. R. Charleston
Lough, D. H. Clarksburg
Lovas, E. E. Berwind
Love, R. W. Moorefield
Lovejoy, U. C. Charleston
Lukens, R. W. Wheeling
Lusher, H. V. Huntington
Lutz, Athey R. Parkersburg
Lutz, John E. Charleston
Lyon, F. K. Parsons
Lyon, Geo. M. Huntington
Lyon, L. A. Wheeling
Lyons, J. W. Holden

— M —

Mace, V. E. Charleston
MacGregor, D. A. Wheeling
*MacKenzie, A. R. Huntington
Mackey, W. K. Huntington
Madera, W. L. Morgantown
Mahan, Charles Morgantown
Mahood, C. F. Alderson
Mallamo, J. T. Fairmont
Mamick, Stephen White Sulphur Springs
†Mangus, J. E. Pineville
Mantz, T. P. Charleston
Markell, J. I. Princeton
Marple, F. O. Huntington
Marquis, Henrietta Charleston
Marquis, J. N. Charleston
*Martin, F. E. New Martinsville
Martin, G. O. Martinsburg
Martin, H. C. East Rainelle
Martin, J. E., Jr. Elkins
Martin, W. B. Huntington
Maskrey, F. R. Wheeling
Matney, T. G. Peterstown
Matson, F. L. Wellsburg
Matthews, L. B. Charleston
Matthews, W. E. Huntington
Maxwell, G. R. Morgantown
Maxwell, J. S. Fairmont
Maxwell, M. H. Moorefield
Mays, W. C. Stanaford
McBee, T. Jud Morgantown
McCarty, J. L. Berwind
McCauley, E. W. Bluefield
McClanahan, Rose H. Charleston
McClellan, E. E. Williamson
McClees, J. E. Williamson
McClellan, G. O. West Hamlin
*McClellan, W. T. Ethel
McClintic, C. F. Williamsburg
McClue, A. E. Dunbar
McClung, James Richwood
McClung, James E. Richwood
McClung, James R. Clarksburg
McClung, W. D. Richwood
McClure, T. R. Marlinton
McClure, U. G. Charleston
McClure, W. T. Wheeling
McCoy, A. V. Elm Grove
McCoy, C. G. Elm Grove
McCracken, W. B. Huntington
McCurdy, J. A. Wheeling
McCuskey, J. F. Clarksburg
McCuskey, Paul L. Parkersburg
McCuskey, W. C. D. Wheeling
McElfresh, E. V. Pt. Pleasant
McFerrin, S. A. Renick
McFetridge, S. Elizabeth Shepherdstown
McGehee, M. W. Huntington
McGraw, Ralph Follansbee
McGuire, John Bluefield
McGuire, John P. Clarksburg
McIlvain, W. E. Moundsville
McIntire, T. S. Kingwood
McKee, John S. Bradshaw
McKenzie, John E. Beckley
McLain, W. H. Wheeling
†McLane, R. A., Jr. Masontown
McLaughlin, Ralph S. Charleston
*McMillan, W. A. Charleston
McMillan, W. O. Charleston
McMullen, James P. Wellsburg
McNamara, R. J. Charleston
McNeer, B. W. Hinton
McNeer, F. L. Hinton
McNinch, E. R. Weirton
McPherson, H. D. Eskdale
Megahan, Burke Elm Grove
Megahan, C. R. Follansbee
Meier, John S. Wheeling
Mendeloff, M. I. Charleston
Merriam, C. G. Page
Messer, Clarence Huntington
Meyer, S. W. Brooklyn (N.Y.)
Mican, H. M. Charleston
Michael, G. H. Parsons
Milchin, Sam Jenkinjones
Milhoan, A. W. Nitro
Miller, Blanche B. Eglon
Miller, F. R. Morgantown
Miller, H. C. Eglon
Miller, J. L. Thomas
*Miller, Roy Ben Parkersburg
Miller, R. F. Paden City
Millman, T. H. Anjean
Mills, L. H. Clarksburg
Mills, Woodrow W. Kenova
Mitchell, O. F. Franklin
*Mitchell, R. C. Sophia
Miyakawa, George Charleston
Moore, B. J. Morgantown
Moore, Dana T. Parkersburg
*Moore, F. J. Killarney
Moore, John M. Wheeling
Moore, L. J. Huntington
Moore, M. A. Longacre
Moore, M. B. Huntington
Moore, Phoebia G. Mannington
*Moore, S. G. Harper's Ferry
Moore, T. W. Huntington
Moran, W. G., Jr. Cranberry
Morgan, G. V. Fairmont
Morison, G. P. Charles Town
Morison, O. N. Charleston
Morris, J. F. Huntington
Morrison, G. C. Huntington
Morrison, M. T. Sutton
Moser, C. Y. Kingwood
Moser, L. A. Charleston
Moser, W. C. St. Petersburg (Fla.)
Moyers, B. F. Matthias
Moyers, E. D. Norton
Mullens, H. S. Kenova
Muller, H. E. Barberton (O.)
Mullins, G. R. Logan
Murphy, F. B. Philippi
Murphy, J. H. Wheeling
Murry, J. H. Vivian
Myers, E. E. Philippi

Myers, Hu C. — Philippi
Myers, Junior — Philippi
Myers, K. J. — Philippi
Myles, W. E. — White Sulphur Springs
Mynes, Leo H. — Charleston

— N —

Neal, L. E. — Clarksburg
Neal, W. E. — Huntington
Neal, W. L. — Huntington
Neale, R. C. — Bluefield
Nefflen, L. H. — Elkins
Nelson, G. O. — Nitro
Newhouse, N. H. — Charleston
Newlin, Willard S. — Lorado
Newman, J. W. — Lillybrook
Newman, Ross E. — Beckley
Newman, R. C. — Spencer
Nicholson, B. B. — Parkersburg
Niedermeyer, J. W. — Charleston
Niehaus, A. J. — Wheeling
Nolan, L. E. — Columbia (S.C.)
Nolte, A. E. — Wheeling
Norris, L. D. — Fairmont
Nunnally, W. O. — Fairmont
Nutter, E. V. — Gauley Bridge
Nutter, R. J. — Clarksburg

— O —

Oates, Max O. — Martinsburg
Oates, T. K. — Martinsburg
O'Dell, R. N. — Syracuse (N.Y.)
Offner, J. E. — Fairmont
*Ogden, C. R. — Clarksburg
Oliker, A. J. — Elkins
Orr, W. W. — Rachel
Osterman, A. L. — Wheeling
Owen, Thelma V. — Huntington
*Owens, H. K. — Elkins
Owens, W. T. — Clarksburg

— P —

Pace, L. J. — Princeton
Page, B. L. — Buckhannon
Page, J. E. — Clarksburg
Palmer, D. W. — Erie (Pa.)
Palmer, G. W. — Philadelphia (Pa.)
Palmer, J. B. — Wellsburg
Parker, W. H. — Braeholm
*Parks, C. L. — Fairmont
Parks, S. W. — Fairmont
Parsons, W. J. — Huntington
Patterson, J. L. — Holden
Pauley, D. F. — Jeffrey
Pearcy, C. L. — Salem
Pearcy, Thompson — Charleston
Peck, E. M. — Charleston
Peck, J. C. — Moundsville
Peck, R. S. — Cannelton
Peery, C. E. — Majestic (Ky.)
Pell, E. N. — Wheeling
Pence, G. L. — Hinton
Pence, R. E. — South Charleston
Pendleton, Edward — Clarksburg
Penn, F. H. — Mullens
Perilman, W. S. — Wheeling
Perkins, H. M. — St. Louis (Mo.)
Peskoe, L. Y. — Louisville (Ky.)
Peter, B. K. — Beckley
Peters, I. T. — Princeton
Peters, J. T. — South Charleston
Peterson, Heyes — Wheeling
Peterson, V. L. — Charleston
Phillips, Earl S. — Wheeling
Phillips, Edward M. — Wheeling
Phillips, Edward S. — Wheeling
Phillips, G. W. — Morgantown
Phillips, H. T. — Wheeling
Phillips, R. W. W. — Wheeling
*Phillips, S. H. — St. Albans
Pickett, J. C. — Morgantown
Ping, E. C. — Clarksburg
Pletcher, R. O. — Lost Creek
Plymale, C. H. — Huntington
Point, W. W. — Charleston
Polan, C. M. — Huntington
Polen, F. E. — Hollidays Cove
Poling, Owen — Eskdale
Politano, V. A. — Milton
Pollock, B. H. — Huntington
Polsue, W. C. — Charleston
Pomputius, W. F. — Helen
Poole, A. — West Union
Porter, W. J. — Wayne
Porterfield, M. H. — Martinsburg
Post, A. T. — Clarksburg
Post, C. O. — Clarksburg
*Post, D. M. — Lawrence (Ind.)
*Post, S. H. — Volga
Potter, F. J. — Parkersburg
Powell, C. W. — Charleston
Powell, L. L. — Huntington
Power, C. G. — Martinsburg
Preiser, Philip — Charleston
Preston, D. G. — Lewisburg
Price, A. M. — Madison
Price, R. B. — Charleston
Price, W. H. — Chattaroy
Priddy, N. D. — Ravenswood
Pride, C. B. — Morgantown
Pride, Maynard — Morgantown
Prillaman, P. E. — Ronceverte
Prunty, S. M. — Parkersburg
Puckett, B. F. — Oak Hill
Pugh, David S. — Chester
Purpura, A. J. — Wheeling
Pushkin, Willard — Charleston
Putschar, W. G. J. — Charleston
Pyles, J. W. — New Martinsville

— Q —

Quimby, W. A. — Wheeling
Quick, James C. — Clendenin
Quincy, F. B. — Williamson

— R —

Ralston, J. G. — Clarksburg
Ralsten, M. M. — Beckley
Ramage, C. M. — Fairmont
Randolph, E. B. — Lost Creek
Rankin, J. O. — Wheeling
Rapp, Roy T. — Williamson
Rardin, W. H. — Beckley
Ratcliffe, G. A. — Huntington
Read, B. J. — Lynchburg (Va.)
Reaser, E. F. — Huntington
Reed, R. J. — Wheeling
Reed, R. J., Jr. — Wheeling
Reed, T. G. — Charleston
Reel, F. C. — Charleston
Reeves, J. N. — Charleston
Repass, J. C. — Lumberport
Revercomb, P. H. — Charleston
Reynolds, C. J. — Bluefield
Reynolds, C. O. — Huntington
Reynolds, O. E. — Huntington
Reynolds, O. S. — Franklin
Rice, Wm. R. — Dunbar
Rich, H. A. — Morgantown
Richardson, Jack L. — Williamson
Richmond, B. B. — Huntington
Richmond, L. C. — Milton
Richmond, W. Fred — Beckley
Ricketts, J. E. — Huntington
Rife, J. W. — Kenova
Rigas, Geo. S. — Weirton
Riheldaffer, W. H. — Chattanooga (Tenn.)
Riley, R. M. — Clarksburg
*Riley, W. M. — Whitbey
Ringer, Paul H., Jr. — Nashville (Tenn.)
Ritter, D. W. — Hinton
Ritter, E. E. — Salem
Ritter, H. H. — Charleston
Rivers, D. G. — Gilliam
Roberts, D. R. — Elkins
Roberts, R. W. — Man
Robertson, G. C. — Charleston
Robertson, H. L. — Charleston
Robertson, W. S. — Charleston
Robins, J. E., Jr. — Charleston
Robinson, J. H. — Charleston
Rogers, F. B. — Fairmont
*Rogers, J. G. — Parkersburg
Rogers, R. O. — Bluefield
Rogers, W. F. — Parkersburg
*Rohr, C. B. — Alum Bridge
Rohr, J. U. — Charleston
Romine, C. C. — Morgantown
Romino, J. D. — Fairmont
Rose, E. E. — Huntington
Rose, G. W. — Clarksburg
*Rose, L. O. — Cincinnati (O.)
Rossman, W. B. — Charleston
*Round, F. L. — Holden
Rowan, W. S. — Logan
Rowley, W. N. — Huntington
Ruark, W. T. — Beckley
Rucker, J. E. — Charleston
Rusmisell, J. A. — Buckhannon
Rusmisell, J. A., Jr. — Buckhannon
Rutherford, A. G. — Huntington

— S —

St. Clair, C. T., Jr. Bluefield
St. Clair, W. H. Bluefield
St. Clair, W. H., Jr. Bluefield
Salkin, David Hopemont
Sammon, W P. Wheeling
Santer, M. A. Parkersburg
Sauder, H. R. Wheeling
Saunders, Irvine Welch
Scherr, W. B. Morgantown
Schiefelbein, H. T. Welch
*Schoolfield, G. C. Charleston
Schuller, F. X. Huntington
Schwartz, L. O. Weirton
Scott, C. M. Bluefield
Scott, C. N. Martinsburg
Scott, F. A. Huntington
Scott, R. K. Lorado
Scott, W. W. Oak Hill
Seletz, Abraham A. Charleston
Selman, J. H. Charleston
Seltz, Herman Elkins
Seltzer, J. P. Charleston
Sexton, Richard J. Charleston
Shafer, C. F. Grafton
Shafer, C. W. Baltimore (Md.)
Shafer, E. E. Huntington
Shaffer, H. A. Beckley
*Shaffer, J. S. Montgomery
Shamblen, E. L. Charleston
Shanes, H. N. Grafton
Shanklin, J. R. Bluefield
*Shanklin, R. V. Bluefield
Shaw, D. J. Martinsburg
Shawkey, A. A. Charleston
Shepherd, E. M. Charleston
Shepherd, W. S. Charleston
Sheppe, W. M. Wheeling
Sheridan, Richard Parkersburg
Shirkey, W. F. Charleston
Shore, E. L. Salem
Shrewsbury, L. E. Beckley
Sidell, A. R. Williamstown
Silver, Harry Milton
*Simpson, J. N. Morgantown
Sims, Thomas C. Fayetteville
Sinclair, M. W. Bluefield
Sites, Chas. J. Franklin
Skaff, V. S. Charleston
Skaggs, H. C. Montgomery
Skaggs, J. S. Knoxville (Tenn.)
Skaggs, J. W. Nitro
Skar, S. J. Davis
Slate, T. A. Hollidays Cove
Slater, C. N. Clarksburg
Slaughter, James F. Charleston
Sleeth, C. K. Morgantown
*Sloan, R. M. Huntington
Slusher, W. C. Bluefield
Small, M. J. Parsons
Smith, A. A. Clay
Smith, B. A. Spencer
Smith, B. D. Amherstdale
Smith, C. E. Terra Alta
Smith, Claude B. Charleston
Smith, C. A. Raleigh
Smith, G. A. Montgomery
Smith, G. C. Hollidays Cove
Smith, H. W. New York (N.Y.)
Smith, Harry A. Madison
Smith, M. W. Biloxi (Miss.)
Smith, Robert J. Peterstown
Smith, T. C. Slagle
Smith, W. P. Huntington
Smith, W. T. Glenville
Snaith, Theresa O. Weston
Snedegar, Paul D. Elkins
Snider, R. J. Wheeling
*Snyder, George Weston
Sonneborn, R. M. Wheeling
Souleyret, S. B. Cabin Creek
Soulsby, P. C. St. Albans
Sowers, F. F. Fairmont
*Spangler, P. C. Princeton
Spargo, J. E. Wheeling
Spelsburg, W. W. Clarksburg
Spencer, L. O. Fairmont
Spencer, T. N. Jr. So. Charleston
Squire, E. W. Charleston
Staats, Charles Charleston
Staats, E. D. Ripley
Staats, O. M. Wheeling
Staats, Roydice Huntington
Stallard, C. W. Montgomery
Stalnaker, Guy Glenville
Stanley, L. P. Charleston
Starcher, E. H. Logan
Starcher, R. C. Ripley
Stark, Jack Belpre (O.)
Starkey, A. L. Hopemont
Starkey, P. C. Ravenswood
Stashak, F. J. Nellis
Stecker, J. F. Morgantown
Steele, B. W. Mullens
Steele, H. G. Bluefield
*Steele, L. E. Logan
Steenbergen, J. H. Huntington
Stemmermann, Marguerite Huntington
Stemple, Margaret Chicago (Ill).
Stephenson, J. E. Clarksburg
Stepp, E. P. Kermit
Stevens, R. J. Huntington
Stevens, Sarah L. C. Huntington
Stevens, W. R. Bartley
Stewart, J. K. Wheeling
Stewart, W. C. Charleston
Stiles, H. A. Huntington
Stoddard, Paul M. Wharton
Stoeckel, Catherine R. Charleston
Stokes, J. W. Hinton
Stone, J. E. Huntington
Stork, A. R. Logan
Stotts, Roscoe Kenova
Stout, B. M. Morgantown
Stout, R. D. Grafton
Strader, H. B. White Sulphur Springs
Strange, W. W. Huntington
Straub, G. L. Welch
Strawn, L. M. Morgantown
Strickland, L. N. Summersville
*Striebich, J. A. Moundsville
Strobel, G. E. Wheeling
Strother, W. L. Salem
Stroud, C. G. Shinnston
Stuart, R. R. Bluefield
Summers, R. R. Charleston
Swann, W. C. Huntington
Swart, H. A. Charleston
Swisher, K. Y. Fairview

— T —

Talbott, R. B. Martinsburg
Tanner, E. M. Bluefield
Taylor, C. T. Huntington
Taylor, H. A. Mullens
Taylor, Ewen Huntington
Taylor, I. W. Huntington
Theiss, J. O. New Martinsville
Thomas, H. V. Clarksburg
Thomas, M. J. Huntington
Thomas, Myrtle Marie Huntington
Thompson, C. T. Morgantown
Thompson, E. B. Montgomery
Thompson, H. G. Charleston
Thompson, James Morgantown
Thompson, J. B. Oak Hill
Thompson, J. L. Weirton
Thoner, J. G. Wheeling
Thornhill, W. A., Jr. Charleston
Thrasher, E. L. Sistersville
Tieche, A. U. Beckley
Todd, G. L. Princeton
Todd, G. L., Jr. Princeton
Tomassene, R. A. Wheeling
Tonkin, H. G. Martinsburg
Torregrosa, M. F. Ashland
Townsend, M. F. Daily
*Trach, J. M. Fairmont
Trach, J. P. Fairmont
Traugh, G. H. Fairmont
Tretheway, S. W. Wheeling
Trinkle, E. A. Weston
Trippett, K. H. Galloway
Trippett, L. H. Earling
Trotter, J. H. Morgantown
Trotter, Robert R. Morgantown
Troutman, H. F. Logan
Tucker, E. B. Morgantown
Tucker, E. D. Nutter Fork
Tuckwiller, J. R. Fairmont
Tuckwiller, Pat A. Charleston

— U —

Ulch, H. W. Parkersburg
Upchurch, C. T. Kopperston
Updike, R. A. Montgomery

— V —

Vacheresse, Edw., Jr. Fairmont
Vanhoose, Harold Mallory
Van Horn, K. L. Fairmont
Van Liere, E. J. Morgantown

Van Metre, J. L. — Charles Town
Van Metre, R. S. — Huntington
Van Reenan, A. C. — Bluefield
Van Sant, W. L. — Hinton
*Van Tromp, H. O. — French Creek
Vass, T. E. — Bluefield
Vaughan, E. O. — St. Albans
Vaughan, Robert R. — McConnell
Vaughn, Florien — Hemphill
Vaughn, P. E. — Beckley
Veach, L. T. — Petersburg
Veon, H. H. — Parkersburg
Vermillion, E. E. — Welch
*Vermillion, J. R. — Princeton
Vermillion, T. U. — Beckley
Vermillion, Uriah — Athens
Vest, W. E. — Huntington
Vial, H. R. W. — South Charleston
Vick, C. W. — Jenkinjones
Vieweg, G. L., Jr. — Wheeling
Viggiano, M. A. — New Martinsville
Villani, A. J. — Welch

— W —

Wade, James L. — Parkersburg
Walden, G. W. — West Hamlin
*Walker, Everett — Weston
Walker, W. J. — Iaeger
Wall, C. I. — Rainelle
Wallace, W. A. — Martinsburg
Walton, L. E. — Pennsboro
Wanger, Halvard — Shepherdstown
Wanner, A. L. — Wheeling
Ward, H. W. — Charleston
Warden, Paul P. — Grafton
Warden, W. P. — Charles Town
Warman, W. M. — Morgantown
Warren, J. O. — Dillon (S.C.)
Watkins, C. E. — Oak Hill
Watkins, D. A. — Buckhannon
*Watson, E. E. — Kingwood
Watts, C. N. — Charleston
Wayburn. Gates — Huntington
Weaver, A. J. — Clarksburg
Webb, J. P. — Huntington
Webb, R. L. — Charleston
Webb, W. S. — Warwood
Weier, K. E. — Bluefield
Weiler, H. G. — Wheeling
Weinstein, Stanley — Huntington
Weisman, S. — Parsons
Weller, Eli J. — Weirton
Welton, W. A. — Fairmont
Wetherby, V. L. — Welch
Wharton, R. H. — Parkersburg
Whisler, H. A. — Clarksburg
Whitaker, L. A. — Weirton
White, R. S. — West Union
White, S. R. — Bruceton Mills
Whiteside, C. T. — Kayford
*Whiteside, W. E. — Parsons
Whitlock, J. W. — Affinity
Whittlesey, F. R. — Morgantown
Widmeyer, R. S. — Parkersburg
Wight, Anne — Montgomery
Wilkerson, W. V. — Prenter
Wilkinson, B. W. — Clarksburg
Wilkinson, D. D. — Wyco
Wilkinson, E. M. — Pineville
Wilkinson, R. J. — Huntington
†Wilkinson, W. R. — Huntington
Williams, J. F., Jr. — Clarksburg
Williams, J. O. — Alderson
Williams, Leonidas — Meadow Bridge
Williams, M. B. — Wheeling
Williamson, Robert G. — Marmet
Willis, C. A. — Clarksburg
Willis, C. G. — Huntington
Wilson, A. A. — Charleston
Wilson, Arnold — Pasadena (Tex.)
Wilson, I. O. — Highcoal
Wilson, J. E. — Clarksburg
Wilson, J. E., Jr. — Clarksburg
Wilson, P. R. — Piedmont
Wilson, W. B. — Charleston
*Wilson, W. H. — St. Albans
Wise, E. D. — Fairmont
*Wise, S. D. H. — Parkersburg
Wiseman, Henry A., III — Glen Ferris
Wolpert, Milton — Chester
Wolverton, J. H. — Piedmont
Wolverton, James H., Jr. — Piedmont
Woodall, R. E. — Charleston
Woodford, J. R. — Philippi
Woodford, T. L. — Belington
Woofter, A. C. — Parkersburg
Work, W. F. — Charleston
Wornal, L. S. — Spelter
Wray, E. B. — Stotesbury
Wright, C. B. — Huntington
Wright, E. B. — Clarksburg
*Wright, E. L. — Parkersburg
Wright, W. B. — Clarksburg
*Wriston, Robert — Beckley
*Wylie, C. B. — Morgantown
Wylie, R. M. — Huntington
Wylie, Ward — Mullens

— Y —

Yeager, W. R. — Parkersburg
Yoho, S. F. — Moundsville
Yost, H. R. — Fairmont
Yost, J. W. — Princeton
Yost, Joe — Fairmont
Yost, Paul — Fairmont
Young, W. B. — Northfork
Yurko, Anthony — Hollidays Cove
Yurko, Leonard E. — Weirton

— Z —

Zando, S. G. — Williamson
Zepp, Andrew — Martinsburg
Zinn, L. D. — Clarksburg
Zinn, R. H. — Hundred
Zsoldos, F. J. — Glen Rogers
Zubak, M. F. C. — Wheeling

Obituaries

WILLIAM W. HUME, M. D.

Dr. William W. Hume, 81, of Beckley, died at a hospital in that city, November 4, 1947. Death was due to pneumonia following a lingering illness.

Doctor Hume graduated from the University of Virginia School of Medicine in 1901 and was licensed to practice medicine in West Virginia that same year. He had postgraduate work at New York Polyclinic, Postgraduate, and Tulane.

Doctor Hume organized Raleigh county's first hospital at Mabscott. He served as county health officer for more than fifteen years, and was engaged in industrial practice at Hinton and in Beckley.

Doctor Hume was an honorary member of the Raleigh County Society, the West Virginia State Medical Association, and the American Medical Association.

* * * *

DONALD EDWARD MacINTYRE, M. D.

Dr. Donald Edward MacIntyre, 32, of Kimball, was killed November 9, 1947, in an airplane accident at Ward, West Virginia. The plane presumably crashed on account of a shortage in fuel.

Doctor MacIntyre was born in Boston and received his early education in the public schools there. He received his B. S. degree at Tufts and his M. D. degree at Hahneman Medical College and Hospital, of Philadelphia, in 1941. He interned at the Roger Williams Hospital, Providence, Rhode Island.

He accepted a commission in the Army Medical Corps in 1942 and served in the ETO. Following his release from the service in 1945, he was licensed to practice in West Virginia and located at Kimball, where he was associated with Dr. C. C. Cochran.

Doctor MacIntyre is survived by his parents, Mr. and Mrs. William G. S. MacIntyre, and two brothers, all of Milton, Massachusetts.

* * * *

WILLIAM DENNIS McCLUNG, M. D.

Dr. William Dennis McClung, 71, of Huntington, died November 2, at a hospital in that city following injuries received in a fall from a moving automobile October 31, at Dickson, West Virginia.

Doctor McClung was born at Rupert, April 17, 1876, son of the late Joseph Edward and Catherine (Haggerty) McClung. He received his early education in the public schools, studying law at West Virginia University. He practiced law at Lewisburg for two years, and then enrolled at the Baltimore College of Physicians and Surgeons, where he received his M. D. degree in 1907.

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Doctor McClung served with the United States Public Health Service during World War I as assistant surgeon at Nitro, and afterwards served as surgeon for the Charleston Industrial Corporation, in that city.

Doctor McClung served for nine years as superintendent of the Spencer State Hospital and afterwards as superintendent of the Huntington State Hospital, resigning to devote full-time to business interests. He was a member of the Cabell County Medical Society, the West Virginia State Medical Association, and the American Medical Association.

Besides his widow, he is survived by a daughter, Miss Kathryn McClung, of Huntington; a brother, Dr. James McClung, of Richwood; and a sister, Mrs. Sidney Smith, of Rupert.

DIABETIC CAMPS

Twenty-five years ago camps for diabetics were unknown. Today hundreds of juvenile diabetics are able to enjoy the same benefits afforded their nondiabetic young friends at summer camps, which previously were unobtainable at such places. This year there were at least 13 camps operating in various part of the country sponsored by medical and other organizations. Physicians and nurses skilled in the care of the juvenile diabetic, aided by dietitians, laboratory technicians and recreational directors, make camp life safer than home life for most of the participants.—E. C. R. in Medical Annals of the District of Columbia.

County Society News

CABELL

Dr. C. F. Shook, medical director of the Owens Illinois Glass Company since 1946, was the guest speaker at the regular monthly meeting of the Cabell County Medical Society held November 13.

Dr. Shook's subject was "Industrial Medicine and the Private Physician."

The meeting was held in the club house of the Owens Illinois Company in Huntington.

THOMAS L. GROVE, M. D.,
Secretary.

* * * *

CENTRAL WEST VIRGINIA

Dr. George F. Evans, of Clarksburg, was the guest speaker at the regular quarterly dinner meeting of the Central West Virginia Medical Society, held September 25, at the Country Club, in Buckhannon. His subject was "Spontaneous Pneumothorax". The paper was illustrated by slides.

At the business meeting held following the scientific program, the following officers were elected for 1948: President, John E. Echols, Richwood; vice president,

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THELMA V. OWEN, M. D., Phychiatric Director

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M. G. STEMMERMANN, M. D., Medical Director

W. W. Huffman, Gassaway; and secretary-treasurer, J. M. Cofer, Bergoo (reelected).

Dr. Roberta Hall, of Weston, was elected to membership in the society, and Dr. O. W. Corder, also of that city, was received as a member by transfer from Fayette County.

The December meeting will be held at Weston and the program will be arranged by Drs. E. A. Trinkle, C. R. Davisson, and K. A. Dillinger.

J. M. COFER, M. D.,
Secretary.

* * * *

FAYETTE

Dr. J. M. Meredith, of Richmond, Virginia, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held at the Tech Cafe in Montgomery, November 4. His subject was "Intervertebral Disc Lesions". The paper was discussed by Drs. C. W. Stallard, Kerr Laird, and M. M. Ralsten.

At a business meeting held following the scientific program, it was ordered that each member donate $2.00 to the Woman's Auxiliary to help finance the high school essay contest.

The following doctors were elected to membership in the society: Eugene M. Frame, of Winona, and George B. Pantera, of Oak Hill.

The officers for the ensuing year will be elected at the next meeting, which will be held December 2 at the Hotel Hill, in Oak Hill.

J. N. JARRETT, M. D.,
Secretary.

* * * *

KANAWHA

Dr. Paul I. Hoxworth, attending surgeon at several Cincinnati hospitals, was the guest speaker at the regular monthly meeting of the Kanawha Medical Society,

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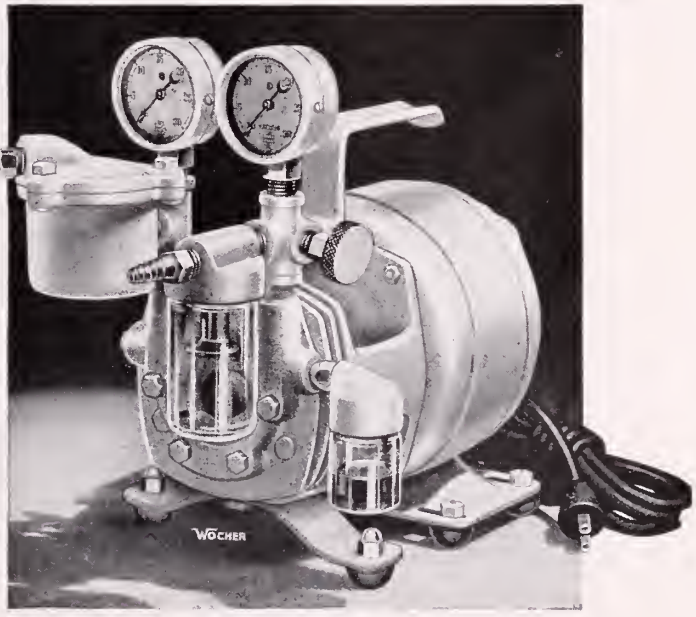

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held November 11, at the Daniel Boone Hotel, in Charleston. His subject was "Surgery of the Colon". The speaker divided the subject into three parts: Cancer of the colon, polyposis of the colon, and ulcerative colitis. The paper was discussed by Drs. John A. Cannaday, Hugh Bailey, Bert Bradford, Jr., R. K. Buford, Henry Glass, and V. L. Peterson.

At the business meeting which followed the scientific program, Dr. Paul H. Revercomb was elected president for the ensuing year. Other officers were elected as follows: Vice president, H. M. Escue; secretary-treasurer, John Hash; and member of the board of censors, A. A. Wilson.

Dr. L. A. Dickerson, of Madison, who was recently appointed director of the new Kanawha-Charleston Health Department, was accepted into membership by transfer from the Boone County Medical Society.

Dr. George F. Grisinger, chairman of the advisory committee, recommended that a monthly bulletin to be known as "KMS Bulletin," be sponsored by the society. The recommendation was accepted, and Dr. H. M. Escue was named editor in chief.

THEODORE P. MANTZ, M. D.,
Secretary.

MERCER

Dr. George Harrell, professor of medicine at Bowman Gray School of Medicine, Winston-Salem, North Carolina, was the guest speaker at the regular monthly meeting of the Mercer County Medical Society, held October 16, at the West Virginian Hotel in Bluefield. His subject was "Antibiotics."

FRANK J. HOLROYD, M. D.,
Secretary.

* * * *

POTOMAC VALLEY

Dr. R. W. Love, of Moorefield, and Dr. W. G. Drinkwater, of Gormania, were honored at the regular monthly meeting of the Potomac Valley Medical Society, held October 31, at the Old Homestead Hotel, in Burlington. They both had completed over fifty years' practice, and each was presented with a gold pen and pencil set. Dr. Arthur H. Hawkins, of Cumberland, Maryland, served as toastmaster and made the presentation on behalf of the members of the society.

At a short business meeting, Dr. R. W. Love was elected president for 1948. Other officers were elected as follows: Vice Presidents, Drs. J. B. Grove, R. W. Daily, O. V. Brooks, O. F. Mitchell, and J. H. Wolverton, Sr.; secretary-treasurer, Dr. Maurice Maxwell; delegates, Drs. R. W. Love and V. L. Dyer; alternates, Drs. J. H. Grove and Robert Bess.

E. A. COURRIER, M. D.,
Secretary.

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Woman's Auxiliary

HARRISON

Dr. Cecil O. Post, of Clarksburg, was the guest speaker at the regular monthly meeting of the Woman's Auxiliary to the Harrison County Medical Society, held November 6, at the Waldo Hotel. He discussed anti-vivisection, pointing out the dangers to the progress of medicine and scientific research that would result if anti-vivisection laws were enacted in this state. He reviewed an article by Dr. Virgil Moon, entitled "Medicine's Fifth Column," which appeared in the Ladies' Home Journal.

The program was in charge of Mrs. Ross Allen, of Clarksburg, who stressed the importance and numerous benefits to the public found in Hygeia magazine. She urged that the local auxiliary promote the distribution of the magazine not only among the members, but the public generally.

The meeting was attended by 29 members, and Mrs. James C. Repass, the president, presided.

MRS. JOHN T. GOCKE,
Secretary.

* * * *

KANAWHA

The fall meeting of the Woman's Auxiliary to the Kanawha Medical Society have been interesting and well attended. The first meeting was held at the Ruffner Hotel in Charleston, in September, for the purpose of receiving the following new members, who were introduced by Mrs. John Hash and welcomed by Mrs. A. C. Chandler, the president: Mrs. Paul Aliff, Mrs. Hunter Boggs, Mrs. William Rice, Mrs. James Slaughter, Mrs. John Brick, and Mrs. George Grubb.

The Auxiliary was hostess to the executive board of the State Auxiliary at a luncheon held at the Daniel

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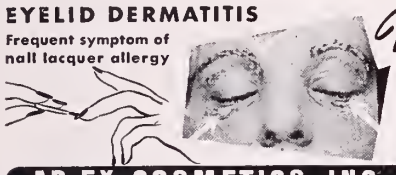

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Boone Hotel, in October. Drs. Hu C. Myers, of Phillippi, John P. Helmick, of Fairmont, and U. G. McClure, of Charleston, members of the advisory board, were among the guests present. Mrs. F. Carl Chandler, the state president of the auxiliary, and Mrs. Charles Lively, secretary of the West Virginia State Medical Association, were the guest speakers.

The November meeting was held at the Daniel Boone Hotel. A buffet supper was served, followed by bridge. At a short business meeting held preceding the social hour, the auxiliary unanimously voted to make another contribution to the Jane Todd Memorial Fund.

MRS. JACK BASMAN,
Secretary.

* * * *

PARKERSBURG ACADEMY

Monthly meetings of the Woman's Auxiliary to the Academy of Medicine of Parkersburg were resumed with a luncheon meeting in the Blennerhassett room at the Chancellor Hotel, October 21.

The meeting was in charge of Mrs. C. L. Goodhand, the president, and the hostesses were Mrs. Welch England and Mrs. Robinson. Mrs. A. D. Knotts, of Georgia, a former member, was presented at the meeting, and several others who had become members during the meeting were introduced.

The luncheon was attended by thirty-one members and guests.

MRS. ATHEY R. LUTZ,
Secretary.

* * * *

RALEIGH

Mrs. F. Carl Chandler, of Bridgeport, president of the Woman's Auxiliary to the West Virginia State Medical Association, was the guest speaker at the regular fall luncheon meeting of the Auxiliary to the Raleigh County Medical Society, held October 20, at the Beckley Hotel, in Beckley.

Mrs. Chandler discussed the objectives of the auxiliary for 1948, stressing public relations and membership. She stated that it is hoped to increase the national membership from 35,000 to 72,000 by next June. She also urged the members to study state and national legislation and to help in the recruitment of nurses.

Mrs. Chandler spoke of the importance of the News Bulletin and Hygeia, and asked support for the essay contest.

Mrs. U. G. McClure, of Charleston, immediate past president of the State Auxiliary, was introduced and delivered a short address.

Mrs. W. C. Covey, the president, presided at the meeting, which was attended by 36 members and guests.

MRS. FRED RICHMOND,
Secretary.

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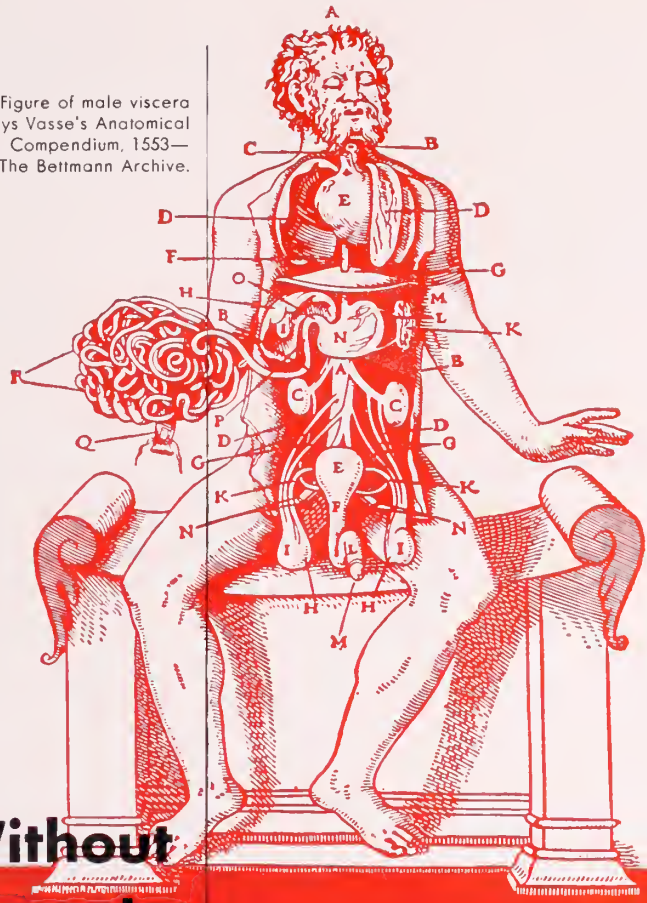

Anatomy: Figure of male viscera from Loys Vasse's Anatomical Compendium, 1553—Courtesy, The Bettmann Archive.

Without accurate knowledge... of human anatomy and physiology, without stethoscope or electrocardiograph, it is small wonder that physicians of the 16th Century were helpless before many of the conditions for which present day medicine possesses efficient treatment.

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Book Reviews

DISEASES OF METABOLISM—Edited by Garfield G. Duncan, M. D., Clinical Professor of Medicine, Jefferson Medical College,, Philadelphia. Second Edition. Pp. 1045. with 167 figures. Philadelphia and London: W. B. Saunders Co. 1947. Price $12.00.

This book is a collection of monographs written by a panel of experts under the editorship of Dr. Garfield Duncan, of Jefferson Medical College. There is perhaps no physician in the world who could authoritatively criticize all of these skilled presentations.

The first one-third of the book is devoted chiefly to the chemistry and physiology of protein, fat, carbohydrate, and minerals. Much of it is extremely detailed and would be of limited interest to men in practice. The remainder of the book is still in some sections overloaded with academic detail, but does present good discussions of diagnosis and treatment.

The book is subtitled A Text for the Practitioner. Most men in practice are too busy to consult such a text. Their needs for information about metabolic disease will be satisfied better and more quickly by any good standard work on medicine. There is no doubt, however, that this book will serve well as a text in medical schools, and as a reference for men who deal frequently with metabolic diseases.—F. R. Whittlesey, M. D.

Correspondence

Salem, W. Va.,
November 7, 1947.

Dr. Walter E. Vest, Editor,
The West Virginia Medical Journal,
Charleston, W. Va.

Dear Doctor Vest:

Among the intangibles of healing are age, state of health, blood quantity and quality, previous illness, severity of the injury, foods and nutrition, blood titers and antibodies, etc., etc. No one can reduce these to fee-schedules.

When one's friend and patient is accepted for treatment and treatment is carried along at one's office, it would be a very marked departure to say to him that "you have exhausted the amount allowed for this kind of case by the Workmen's Compensation Fund and I can not charge further treatment to the Fund."

Or I may say "your healing speed has not conformed to the time limit acceptable to the Workmen's Compensation Fund."

Or "you should not have had an accident which mashed out your circulation because to start so far

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behind you can not complete your healing in time to meet with the regulations and fee schedules of the Workmen's Compensation Fund."

The problem resolves itself to a service primarily to the budget. He who controls the purse calls the tune. The patient is not served except through the moral obligations of the physician to see the case through to the end. This he feels as a moral duty to himself and to the profession as well as to the patient and, as of yore, he often remains unpaid.

In a recently completed case of fracture of the hand the Workmen's Compensation granted permission for three additional x-rays, a total of six. One of these privileges was used, two more were not. The Fund was prepared to pay for an excess of two x-ray services but did not have it to pay. It was saved that much. Yet when the bill was sent them for medical service completed, the bill was cut to two-thirds. One circumstance laughs at the other. The Fund is too poor to pay the doctor who does the work yet will promise payment for the work of the x-ray specialist in excess of what is needed.

In a recently completed case of amputation of a portion of a finger which was mashed, the doctor's bill was split in half. The doctor was paid $25.00 for his work, the bill being $50.00; yet the injured man was paid a bonus of $280.00 for loss of a portion of finger.

The Medical Director assures me that the commissioner is the sole controller of the Fund. The Fund consists of payments made by various employers, and these employers have their payments raised if they have an accident among their employees and protest. The injured grumble because their weekly checks do not arrive until after they are forced to make other arrangements and when the checks do arrive, it is a pittance. Yet bank balances are increased in favor of the Fund. The doctor who assumes the case may or may not be told by the injured that it is a "compensation case." Most cases in twenty-three years of medical practice by the writer have not thought to inform the doctor till after all pain has left. The patient's urgency precludes the doctor's interrogation oftimes. To have the reputation that the injury must wait for financial assurance is one to be reckoned with. To have a history that all payments for bills are scaled down as low as 50% by the Workmen's Compensation Fund gives one pause. Considerable incentive to give good care is removed. One must serve the budget and not the patient. Yet, if anything goes wrong the doctor is liable—his reputation or a civil suit at law.

All funds aim for the absolute control of both doctor and patient. To the commissioner is conferred control of funds and fee schedules, fixed amounts to be paid to those who serve. Physicians are invited by devious methods to agree to the fixations through committees of doctors who may or may not have understanding or wisdom in such matters; nor any knowledge of how the patient and the doctor lose control over their own actions in a given case. Fortunately, the physician, in

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most cases, feel their obligations to the patient.

The procedure is this: First, the control is vested in a commissioner, fee schedules are arranged, and physicians' committees agree with a hope that individual doctors will agree. Control is complete from the physician's standpoint. There is no reason for variation of individual cases.

The Fund is fortified by these previous arrangements and a medical and legal staff to support its legality. What chance does the practitioner have to maintain his practice and fight his battle in the courts. The psychology of defeat pervades the mind of the practitioner when he sees the names of colleagues against him, and for the Fund, it could be that the physician opposing has never practiced medicine and, furthermore, his salary may come from the Fund controlled by the commissioner. Any controversy starts with the practicing physician defeated.

In conclusion the Workmen's Compensation Insurance Fund is one of the most vicious forms of socialized medicine for the following reasons:

First, it is compulsory. Employers must pay a tax for every employee to confer upon the Fund any obligation and risk they may have to assume. The Fund protects the employer from the employees and the doctor.

Second, it is taxation without representation in that a few accidents will cause the employer's premium rate per employee to be raised by the commissioner.

Third, the commissioner is the czar of the Funds. He can control sources, expenditures, and all expenses. It is bureaucracy.

Fourth, it is a compulsory health insurance or sickness taxation because no one can define when an injury ends and sickness begins. Sickness cannot be defined because it is primarily economic.

Fifth, no one is satisfied. The employer has his premium raised from time to time. The injured obtains a pittance for his injury and upkeep. The slothful tries to prolong his injury. The doctor has his bills cut. The fee schedules are primarily for the surgeon and specialist and puts the practitioner at odds with them.

Sixth, it serves only the budget and builds reserves.

Seventh, it is state medicine. It is socialized medicine and it is compulsory sickness taxation. It is basically wrong in concept, totalitarian in administration, undemocratic and contrary to our way of life in this country.

Very truly yours,

(Signed) E. L. Shore, M. D.

* * * *

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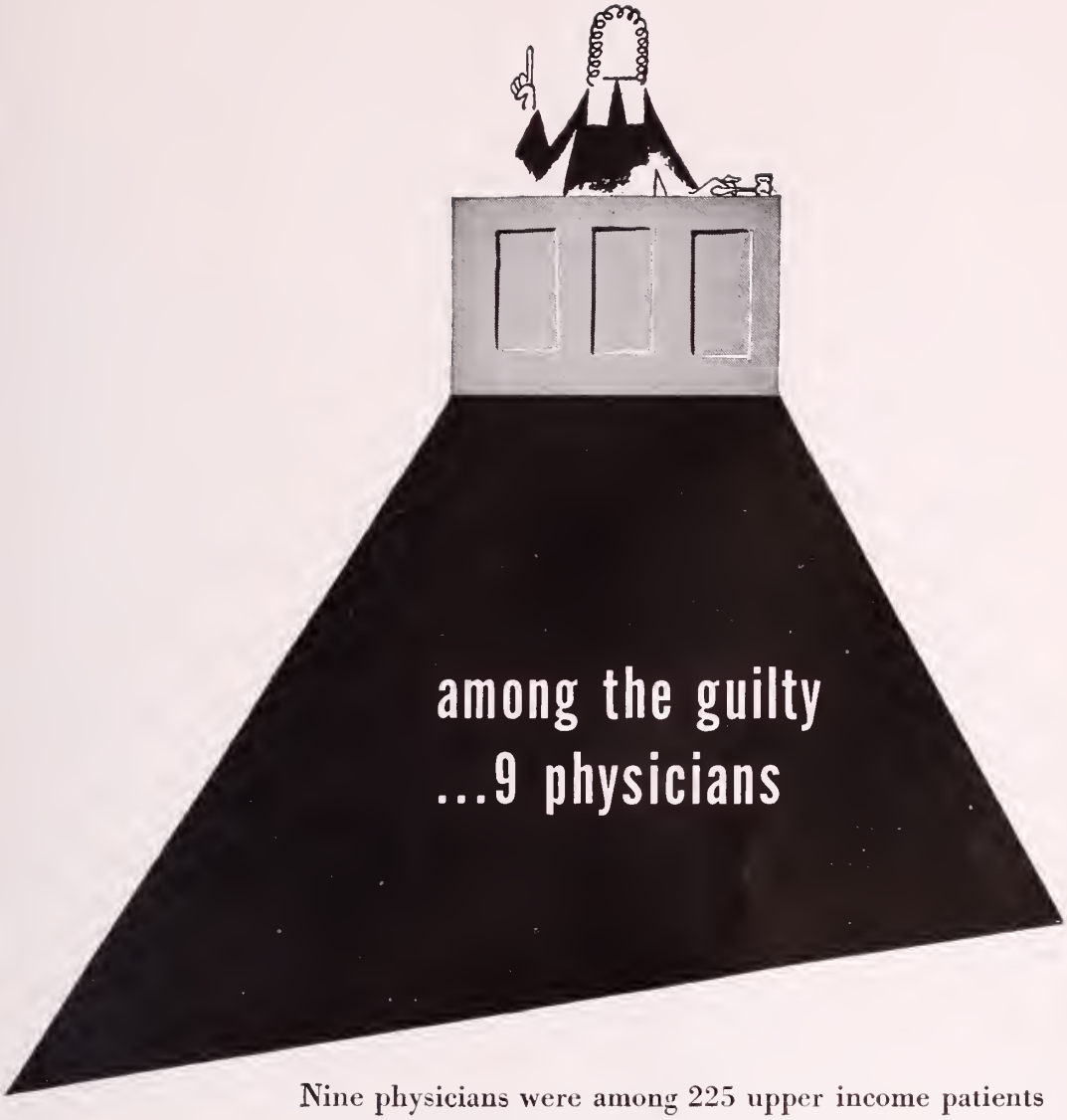

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1. New England J. Med. **228**:118 (Jan. 28) 1943.
2. J. A. M. A. **129**:613 (Oct. 27) 1945.

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FOR many centuries,—and apparently down to the present time, even in this country—ricketic children have been passed through a cleft ash tree to cure them of their rickets, and thenceforth a sympathetic relationship was supposed to exist between them and the tree.

Frazer* states that the ordinary mode of effecting the cure is to split a young ash sapling longitudinally for a few feet and pass the child, naked, either three times or three times three through the fissure at sunrise. In the West of England, it is said the passage must be "against the sun." As soon as the ceremony is performed, the tree is bound tightly up and the fissure plastered over with mud or clay. The belief is that just as the cleft in the tree will be healed, so the child's body will be healed, but that if the rift in the tree remains open, the deformity in the child will remain, too, and if the tree were to die, the death of the child would surely follow.

*Frazer, J. G.: The Golden Bough, vol. 1, New York, Macmillan & Co., 1923

It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

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THE WEST VIRGINIA Medical Journal

DECEMBER, 1947
Vol. 43 No. 12

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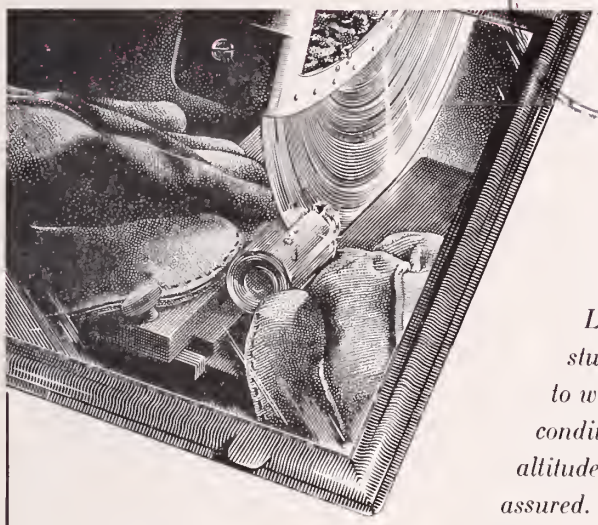

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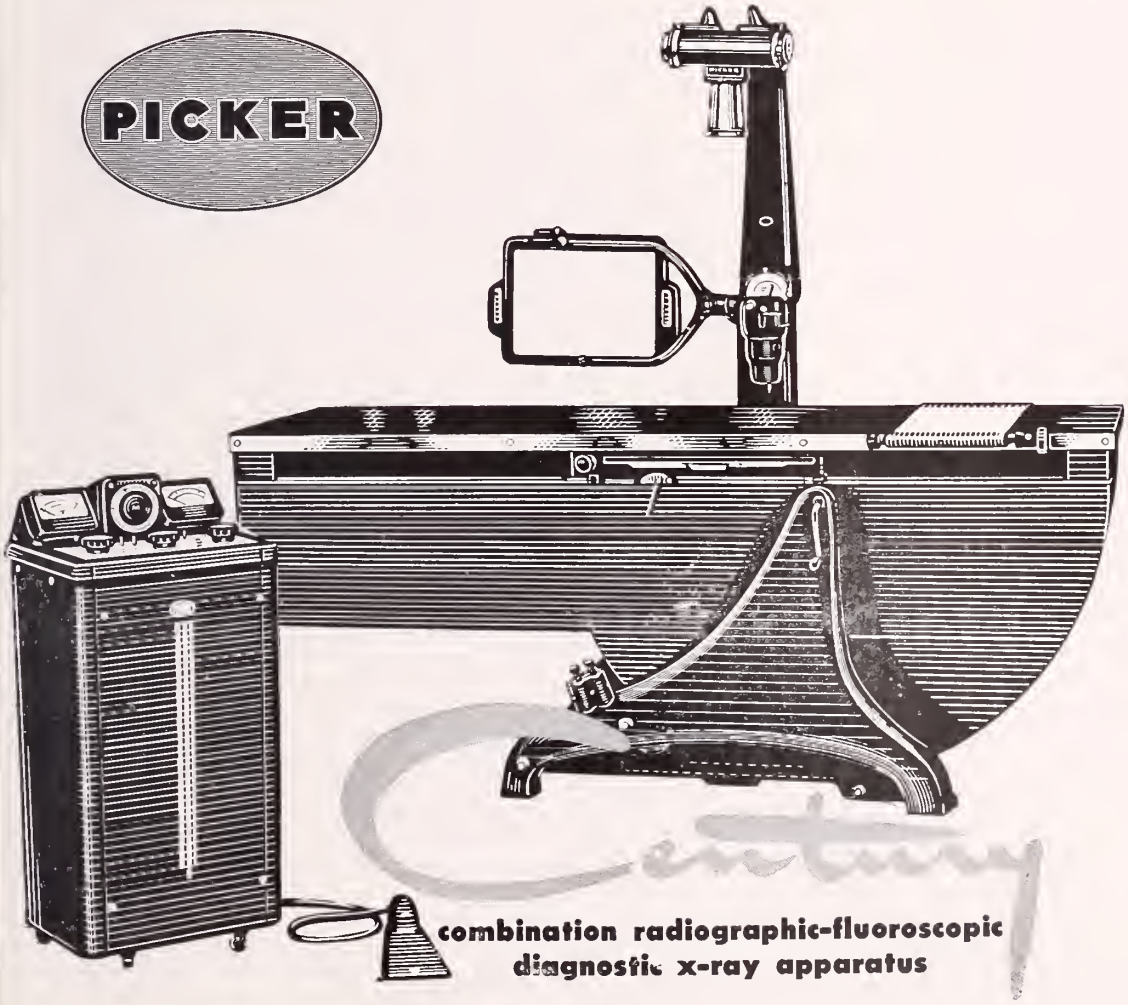

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